

SUPER PRECISION FLUID DISPENSERS

VOL
22

General Catalog

Filling
Sealing
Coating
Dotting
Lining

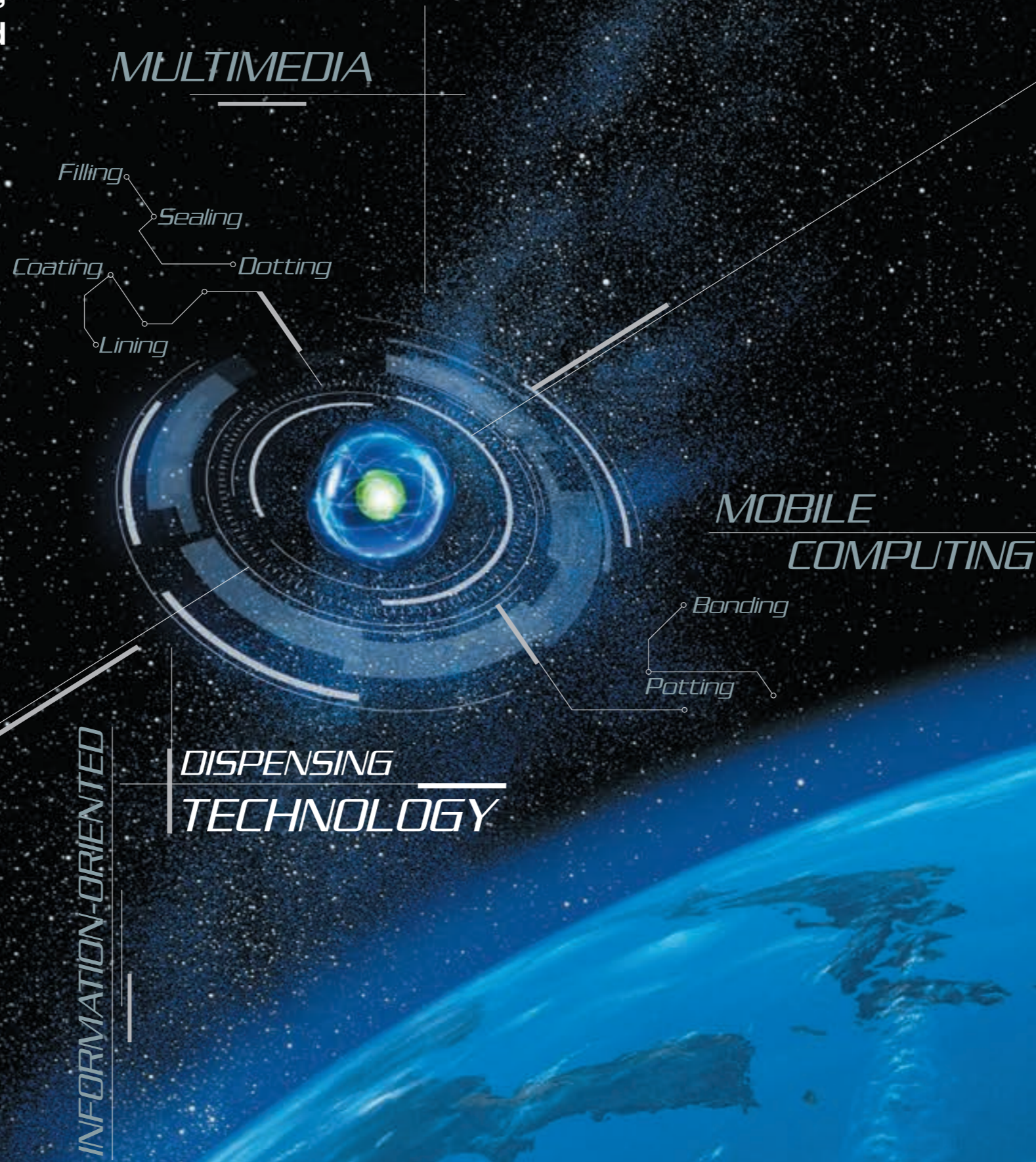
Bonding
Potting

DISPENSING
TECHNOLOGY

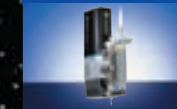
CREATIVE

An insatiable challenge to the microscopic world, which could be described as an infinite microcosm

Since its founding, Musashi Engineering has consistently pioneered new frontiers in the profound and unexplored field of fluid precision control technology under policy "Creating Value and Producing Original Seeds." Our business fields range from ultra-precision fluid dispensing systems capable of 1/100,000 mL to fully automatic dispensing systems that have achieved unmanned production lines, as well as comprehensive system dispensing systems. Musashi Engineering is committed to building new and creative seeds to meet the needs of the electronics industry and all other industries for higher precision, higher density, and higher speed.



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Volume measuring type dispenser



Plunger pump dispenser

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Type	Model	Page
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KEY TECHNOLOGIES

KEY TECHNOLOGIES that fill the new needs of the age.

Dispensers (dispensing systems) embodying dispensing technology are utilized in manufacturing processes in all industries, from automobiles, aircraft, and satellites to medicine, pharmaceuticals, biotechnology, and food, as well as in the electronics field, including semiconductors, mounting, electronic components, smartphones, home appliances, and communications.

In particular, the application of the dispensing process is expanding in mobile devices such as smartphones, VR and AR goggles, and smart watches; digital devices such as PCs, tablets, and game consoles; and automobiles, which are undergoing remarkable technological innovation, including automated driving and EVs.

Dispensing technology is now an essential technology for craftsmanship. It is developing into a key technology that supports all industries.

Applications list

Semiconductors, LEDs, MEMS devices (modules)	CSP, BGA, 3D -WLP, LED/miniLED/ μ LED, Power modules, Pressure sensors, etc.
Digital information terminals and Telecommunications	Smartphones, VR/AR goggles, Smartwatches, Earphones, PCs, Tablets, Game consoles, Security cameras, E-books, Telecommunication base stations, Servers, etc.
Home appliances and office equipment	TV, Video camera, Digital camera, HDD, DVD player, Washing machine, Refrigerator, Air conditioner, Vacuum cleaner, Microwave oven, Humidifier, Air cleaner, Copy machine, Scanner, Projector, etc.
Automotive, Automotive Components & Mobility	EVs, HVs, Engine cars, Drones, Electric bicycles, Electric motorcycles, Trains, Aircraft, Satellites, etc.
Electronic Components (Modules)	Capacitors, Inductors (coils), Resistors, Crystal devices, Relays, Switches, Power modules, Motors, Camera modules, Speakers, Connectors, Lithium-ion batteries, Solar cells, Fuel cells, Sensors, etc.
Housing, Plant & Energy	Lighting fixtures, Toiletries, Building materials, Power tools, Industrial plants, Generators, Electric energy storage (ESS), etc.
Equipment and Machinery	Semiconductor manufacturing equipment, Industrial robots, Microscopes, Telescopes, etc.
Medical, Biotechnology Products and Cosmetics	Medical needles, Medical syringes, Catheters, Endoscopes, Thermometers, Sphygmomanometers, Examination kits, Foundations, Lipsticks, Anti-aging cosmetics, etc.
Food	High-grade Japanese and Western confectionery, Chocolate, Fish paste, Sauces, Baste, etc.
General consumer goods, Musical instruments, Hobbies	Stationery, Eyeglasses, Clothing, Shoes, Dishes, Furniture, Musical Instruments, Toys, Sporting Goods, Fishing Equipment, etc.

Business fields

Automobile

Active in the bonding, sealing and coating processes of automotive parts such as engines, EV motors, ECUs, and batteries.

Smartphone/Tablet

Succeed in bonding, reinforcement, conduction and insulation of various devices including semiconductors.

Electronics

Succeed in bonding, reinforcement, conduction and insulation of various devices including semiconductors.



Next generation display

Our technology is taking part in critical process for the development and manufacturing of next-generation products such as curved displays.

Medical/Biotechnology

It contributes to cost and labor reduction and accuracy improvement for research institutes and pharmaceutical manufacturers.

Food

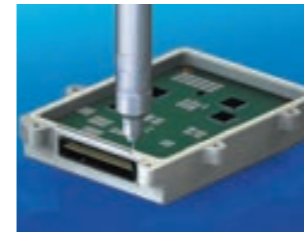
Please ask for the decoration and 3D ornament formation using chocolate and candy.

Aerospace/Ship

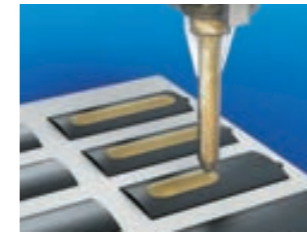
It is also used in the manufacture of satellites, spacecraft, airplanes, ship bodies and on-board equipment.

Automobile

CIPG dispensing to ECU **P28**



Two-component adhesive applied to Motor Magnet **P38**



Two-component thermal pastes dispensing on the battery case **P38**



Grease dispensing on gear parts **P25**



Automobile

Dispensing thermal grease to the ECU casing **P35**

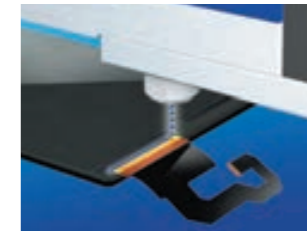


FIPG dispensing on engine parts **P28**



Next generation display

Tab reinforcement for OLED/LCD modules **P22**

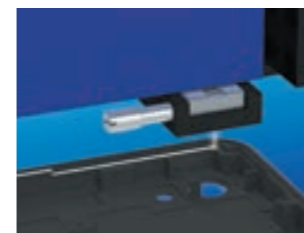


ODF on LCD substrate for Mobile Products **P81**



Smartphone/Tablet

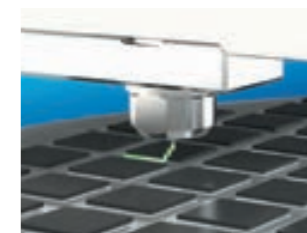
Sealant dispensing on cover cases **P22**



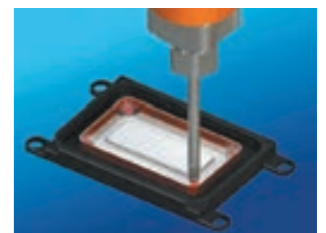
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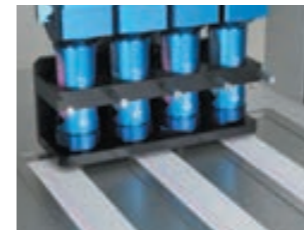


Speaker Vibration Membrane Attachment **P46**

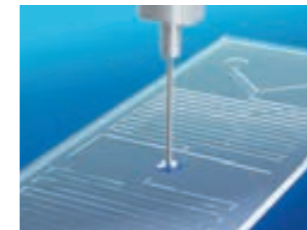


Medical/Biotechnology

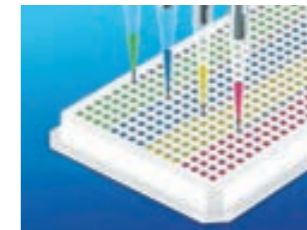
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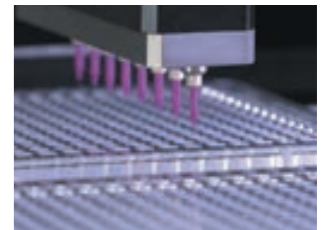
Development and manufacturing of biochips **P75**



Pipetting reagents into micro plate **P75**

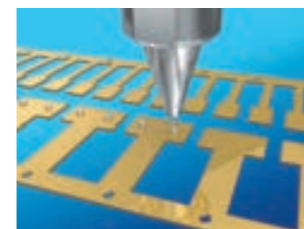


Reagent spotting system **P76**

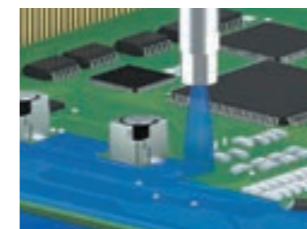


Electronics

Ag paste dispensing in die bonding **P42**



High-precision coating on substrates **P80**



Two-component resin encapsulation for IGBT modules **P38**



Food

Chocolate decoration on cookies **P78**

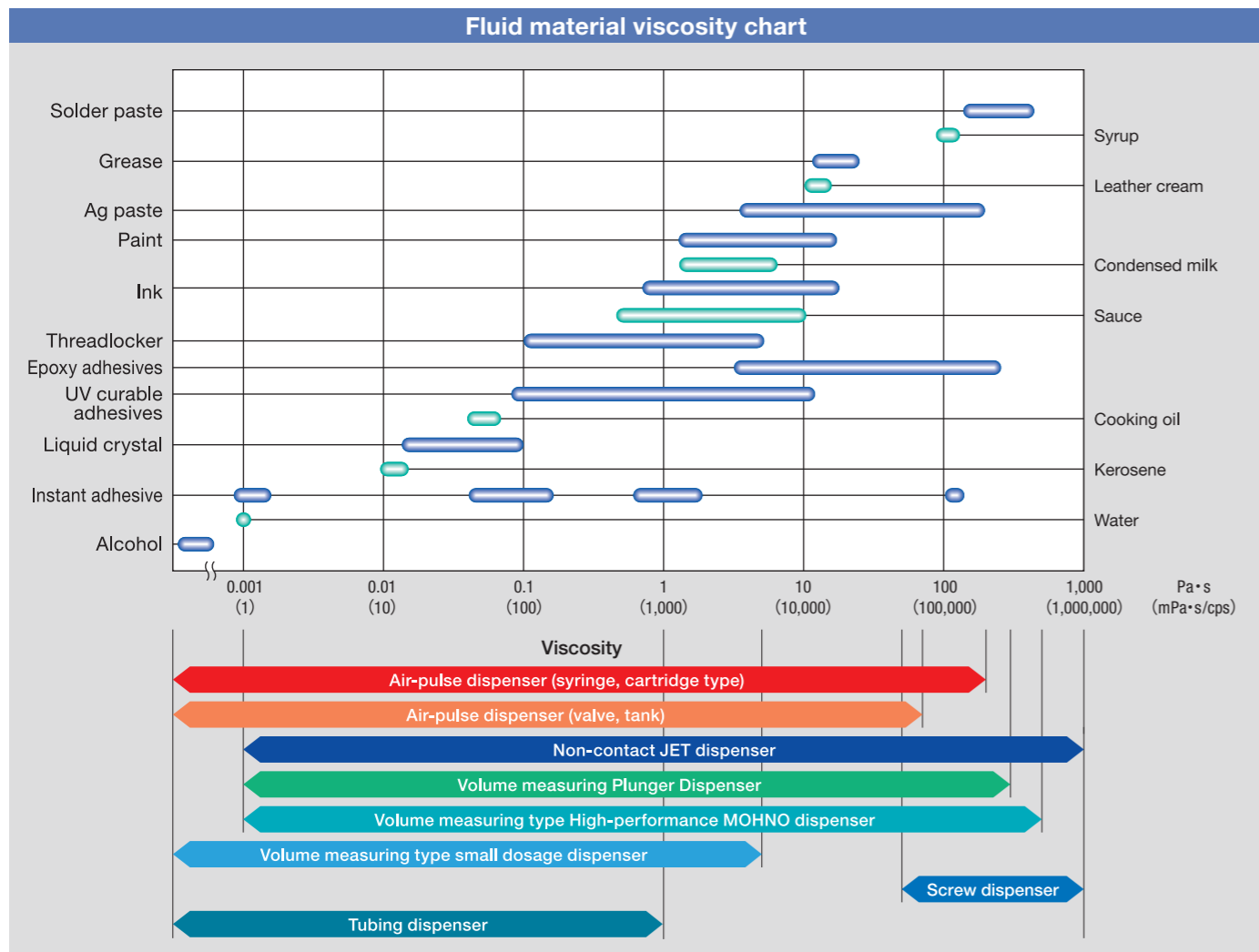


INNOVATION

Unending advancement of precision fluid control technologies.

Demand for Digital Transformation (DX) and Green Transformation (GX), those related products and devices are also required for smaller, higher performance and more functions. Variation and usage of fluid materials are also become more advanced as same as evolution of dispensing technology. Fluid materials for various purposes such as adhesion,

reinforcement, protection, sealing, conduction, heat dissipation, sealing, and lubrication have a wide variety of properties, including material, viscosity, curing characteristics, and thixotropy. The extensive MUSASHI product lineup is developed and commercialized to suit the dispensing application and maximize the capabilities of each fluid material.



Note: The above chart shows reference values. The values may differ depending on the dispensing condition and fluid material to be used. Contact MUSASHI Sales for more information.

Fluid material list (Application)

Assembly and Fixation (Adhesives)

UV curable adhesives, Thermosetting epoxy adhesives, Cyanoacrylate adhesives (instant adhesives), Anaerobic adhesives, Silicone RTV, Rubber adhesives, Two-component adhesives (epoxy/acrylic/urethane, etc.), Hot melts, Pressure sensitive adhesives, Temporary fixing agents, Screw lock agents, etc.

Reinforcement, Protection, Sealing

Underfill material, Junction coating resin (JCR), Polyimide, Moisture-proof coating agent, Fluorine coating agent, LED encapsulation resin, Gel material, etc.

Conduction

Solder paste, Ag paste, Cu paste, Sintering paste (Ag and others), Ag ink, etc.

Radiation

Silicone compound, Gap filler (1/2 component), etc.

Sealing

FIPG, CIPG, Reactive Hot melt (PUR), etc.

Lubrication

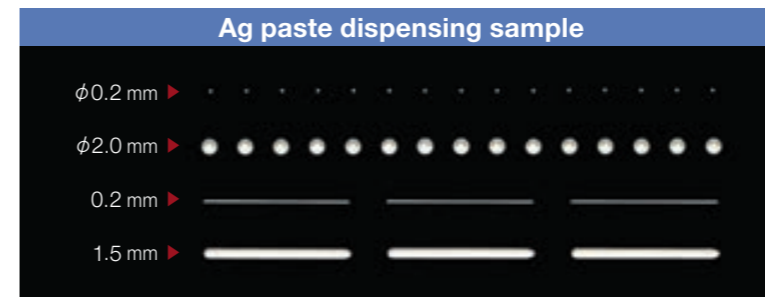
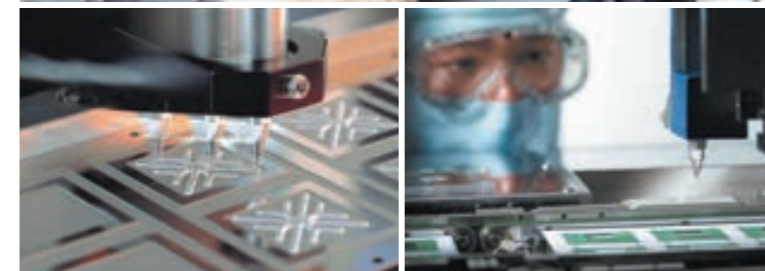
Oil, Silicone (oil, grease), Dry lubricant, etc.

Food/Cosmetic Materials

Chocolate, Fish paste, Tempura oil, Various edible pastes, Lotion, etc.

Other

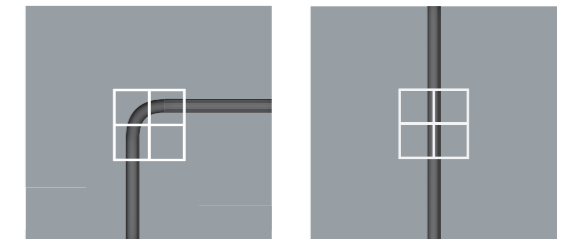
Fluxes, rust inhibitors, Brazing materials (gold, silver, copper), Liquid crystals, Electrolytes, Inks, Dyes, Paints (solvent-based/water-based), Solvents (alcohol), Fluorescent paints, Waxes, Chemicals, etc.



Note: This photograph is actual size.

Shaping liquids with precision control technology

Of the three states of matter (solid, liquid, and gas), there are no textbooks on dispensing technology (fluid precision control technology) for the 1.5 states of matter: fluids and fluidity solids. MUSASHI has been pursuing and solving problems with "shaping liquids with precision control technology" demanded by the market and customers since its establishment, making full use of not only mechanical, electrical, control, software, and other engineering technologies, but also composite technologies that extend to optics, chemistry, and physics.



High-definition line drawing dispensing using the MLC-6500 fully automated liquid crystal seal dispensing system

This development approach has resulted in technologies for ultra-fine fluid controlling at the pico/nano level and stable dispensing on automated lines at mass production sites. MUSASHI contributes to the evolution of manufacturing processes for semiconductors and electronic devices, which are becoming smaller and finer, and to R&D activities in the pharmaceutical and biotechnology fields with its Ultra-precision and small fluid control technology.

Dispensing diameter vs. Weight Table

$$\text{Aspect ratio} = \frac{\text{Dispensing diameter } (\phi) : \text{Height}}{\text{① } 4 : 1 \quad \text{② } 10 : 1}$$

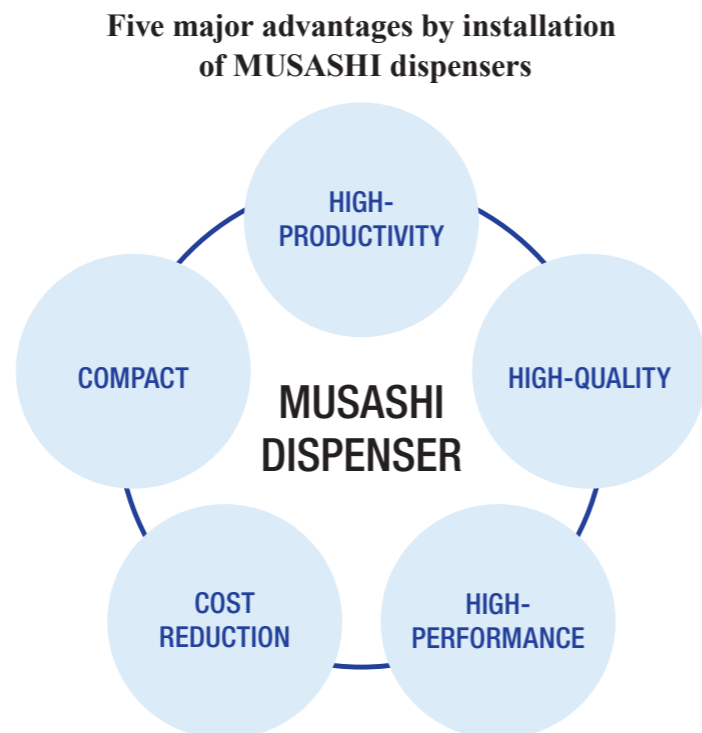
Dispensing diameter (φ) [mm]	[Unit:mg]															
	0.1	0.15	0.2	0.25	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.5	2.0	2.5	3.0
Water	① 0.00011	0.00036	0.00085	0.0017	0.0029	0.0068	0.0133	0.023	0.036	0.054	0.078	0.11	0.36	0.9	1.7	2.9
Specific Gravity: 1.0	② 0.00004	0.00013	0.00032	0.00062	0.0011	0.0025	0.0050	0.0086	0.014	0.020	0.029	0.04	0.13	0.3	0.6	1.1
UV curable adhesives	① 0.00012	0.00039	0.00094	0.0018	0.0032	0.0075	0.0146	0.025	0.040	0.060	0.085	0.12	0.39	0.9	1.8	3.2
Specific Gravity: 1.1	② 0.00004	0.00015	0.00035	0.00068	0.0012	0.0028	0.0055	0.0095	0.015	0.022	0.032	0.04	0.15	0.4	0.7	1.2
Heat dissipation paste(gap filler)	① 0.00032	0.00108	0.00255	0.0050	0.0086	0.0204	0.0399	0.069	0.109	0.163	0.233	0.32	1.08	2.6	5.0	8.6
Specific Gravity: 3.0	② 0.00012	0.00040	0.00096	0.0019	0.0032	0.008	0.015	0.026	0.041	0.061	0.09	0.12	0.40	1.0	1.9	3.2
Ag paste	① 0.00043	0.00144	0.00340	0.0066	0.0115	0.0272	0.0532	0.092	0.146	0.218	0.310	0.43	1.44	3.4	6.6	11.5
Solder paste	① 0.00043	0.00144	0.00340	0.0066	0.0115	0.0272	0.0532	0.092	0.146	0.218	0.310	0.43	1.44	3.4	6.6	11.5
Specific Gravity: 4.0	② 0.00016	0.00054	0.00127	0.0025	0.0043	0.010	0.020	0.034	0.055	0.081	0.12	0.16	0.54	1.3	2.5	4.3

Note: The above specific gravity is a guide only. The values may differ depending on fluid material to be used.
Note: Specific gravity is calculated as density [g/cm³].

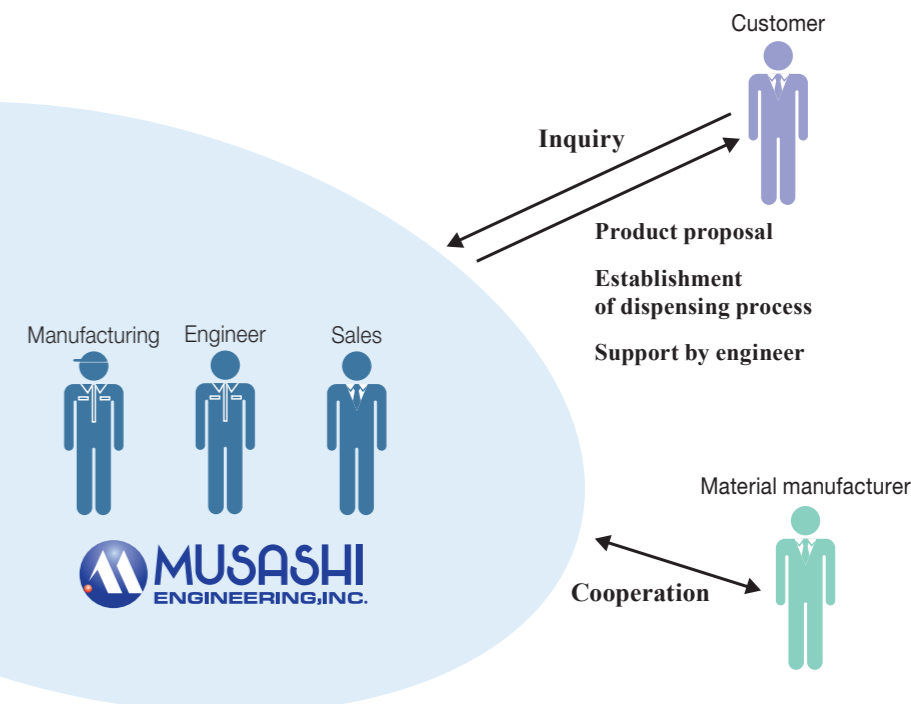
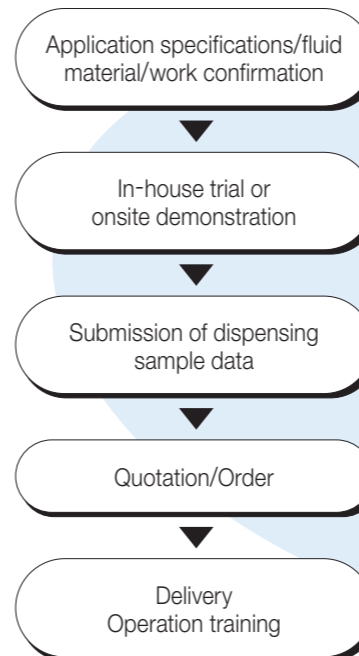
DISPENSE SOLUTION

The best solution from MUSASHI.

Professionals in charge of fluid precision control consultation will propose a dispensing system using fluid precision control technology necessary for labor saving and automation of production lines, tailored to the customer's application, needs, and budget. In order to accurately respond to your consultation, of course, we offer face-to-face or web meeting, but we also have a presentation room in our office to provide an excellent in-house environment for the best consultation. In addition, laboratory space at each location for application trials, technical discussions and on-site technical support are available to provide a tailored total solution to customers. To ensure that customers are fully convinced and satisfied with services, we practice technology exchange that is heart-to-heart in every aspect.



Flow to proposal



Product lineup

<p>Dispenser</p>	<p>Desktop/cartesian robot</p>	<p>Parts and Accessories</p>
<p>Fully automated dispensing machine</p>	<p>Fully automated substrate coating machine</p>	<p>Dispensing inspection machine</p>
<p>Reagent spotting system</p>	<p>Dispensing/dilution system</p>	<p>3D Food Printer</p>

MUSASHI Solutions



Fully equipped with a showroom and extensive evaluation facilities.

DISPENSE WORLD

A full lineup of dispense heads, valves, and dispense controllers that are at the core of dispensing technology and responsible for metering fluid materials. Optimal solutions will be proposed for a wide variety of application scenarios.

Jet dispensers

Ultra-small
Non-contact JET dispenser
Hyper Jet 2



Ultra high speed
Micro / JET system
The pinnacle of droplet projection
Super Jet 3 Hi SPEED



High viscosity
Compatible / JET system
The pinnacle of droplet projection
Super Jet 3 Hi POWER



General purpose No.1 seller /
JET type
Aero Jet



For low-viscosity fluid and
non scattering/JET type
Cyber Jet 2



Air pulse dispensers

Micro, high-speed, high-precision/
full-function digital control
dispenser

Super CMIV Pro



Micro, high-speed, high-precision/
full-function digital control
dispenser

Super CMIV



High precision digital
dispenser with upper-level
communication support
ML-8000X

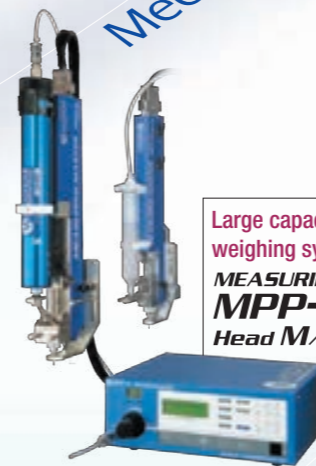


Built-in temperature
control CTR
Air-pulse system
Dispenser
ML-7000X



Mechanical dispensers

Large capacity/volumetric
weighing system
**MEASURING MASTER
MPP-5
Head M/Head S**



For high-viscosity materials
in paste form/screw type
SCREW MASTER 3



High-speed and high-grade gasket
dispensing system/MOHN type
MOHMASTER



Tubing type for instant adhesive
MT-410



1 nL/ultra-high-precision
volume metering system
**NANO MASTER
SMP-MS**

NEW



Eco-friendly/compact pneumatic type
**SMART SHOT
MS-1/MS-1D**



For Industry 4.0
New generation digital dispenser
ML-6000X



For Industry 4.0
New generation digital dispenser
ML-6000X Pro



High-precision needle control valve
MiniVal NCV-17



Constant-volume dispensing
valve with suck back mechanism
MiniVal PCV-12



Multi nozzle
for multiple points per 1 shot



**DSHN nozzle
FN nozzle**



High-precision,
high-quality syringe



Syringes

High-precision,
high-quality
nozzle

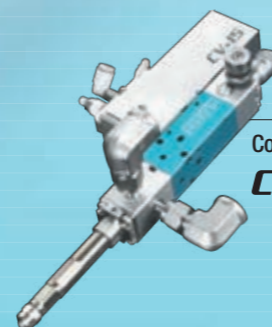


Valve dispensers

Two-fluid spray valve
F5V-1/55V-1



Coding valve
CV-15



Other dispensers

Pail compatible Two-component
heat-dissipating material
dispensing system
**MEASURING MASTER
DUAL MPP-5-M
-GF-MINI**



Liquid pressure
feed pump
LPP-1



Two-component
metering/mixing dispenser
PELTIER MASTER



Two-component
metering/mixing
dispenser
TAM-93C



Grease JET dispensing system
GREASE JET

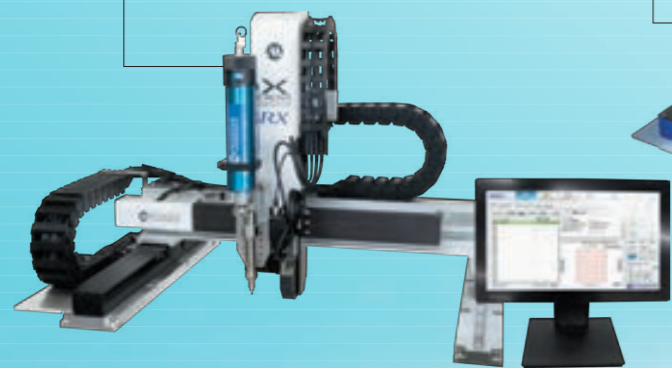


DISPENSE FA WORLD

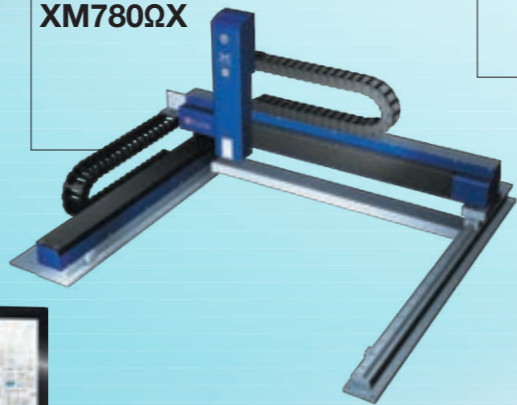
A wide range of products are available, including desktop type robot as represented by the Shot Master series, fully automated seal dispensing systems and liquid crystal drip systems for the LCD field, and fully automated dispensing systems for the semiconductor and mounting fields.

Cartesian robots

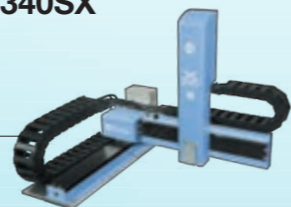
3D alignment correction
Cartesian robot
IMAGE MASTER 350PC Smart
XCROSS MASTER series



XCROSS MASTER XM780ΩX



XCROSS MASTER XM340SX



Fully automated dispensing machines

NEW

Next generation underfill
Fully automatic dispense machine
DISPENS MASTER FAD 5700/5700L
PLP compatible



High precision machine, bare wafer compatible
FAD 5100S-WH

NEW



Fully automatic
High productivity dispensing machine
DISPENS MASTER SERIES FAD 2500W

FPD fully automated dispensing machines

Long-awaited
best-selling machine now available!
DISPENS MASTER FAD 2500SD



L size + long substrate compatible
Stable coating machines
COATING MASTER FCD 1200



Large 20-ton class
Realization of
sub-micron accuracy

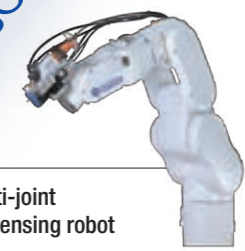
Ultra-precision and
ultra-high speed
Fully automatic liquid
crystal dropping machine
MLC 7500



FPD
Fully automatic, high speed
Seal drawing machine
MLC 6500

Arm robots

Multi-joint
dispensing robot
Arm JET



World's smallest Compact
fully automatic machine
SMART ROBO TAD 1000M



Desk-top robots

SHOTMASTER 300ΩX-SS



World's first tabletop type 3D correction robot
IMAGE MASTER 350PC Smart
SHOTMASTER series



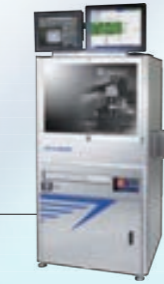
SHOTmini 200SX-SS



Vacuum chamber type dispensing system
DISPENS MASTER MBC-V SERIES



Inline compatible
Dispensing inspection machine
DISPENS MASTER FIS 1000



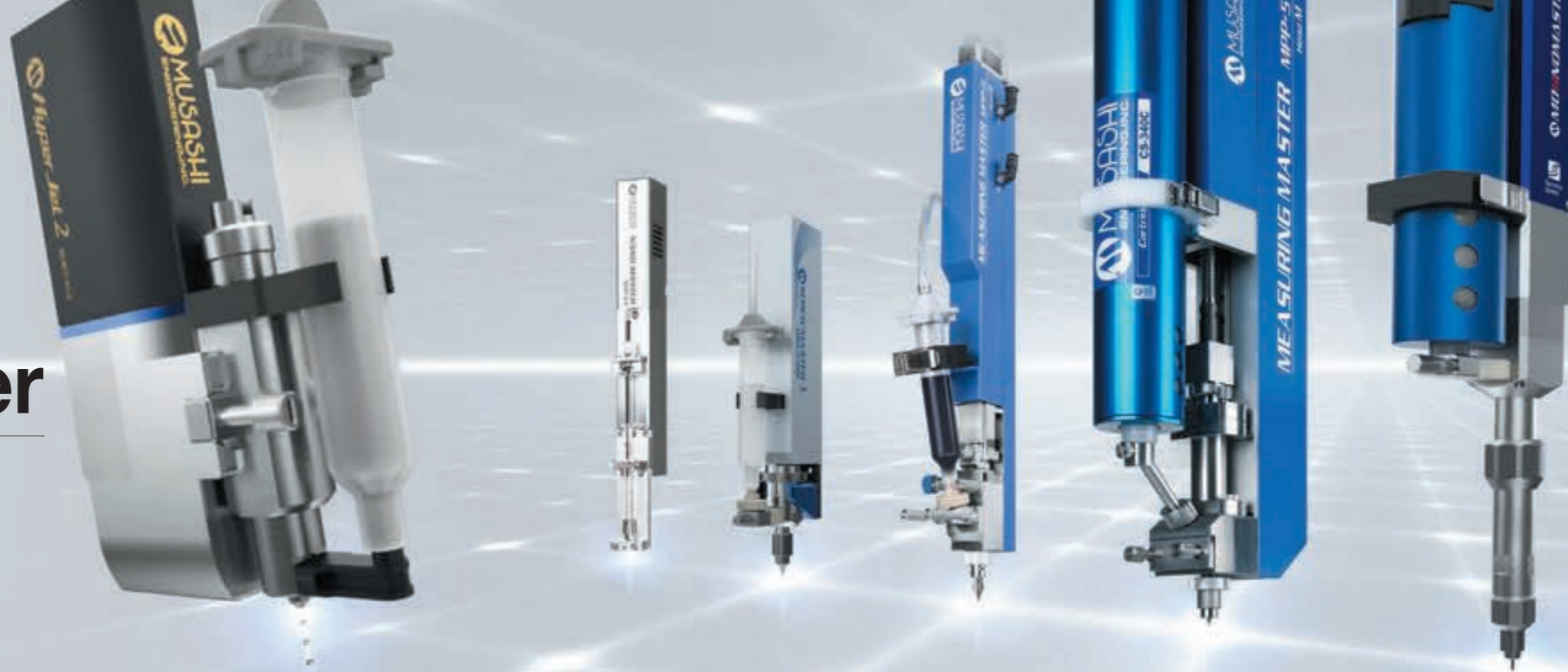
Ink JET
High-precision dispensing system
LABO DISPENS MASTER MIJ 1000



Mastering both trace amounts and high viscosity.
Optimal solution for productivity improvement and stable dispensing.

Mechanical system Dispenser

Mechanical dispensers directly control dispensing volume mechanically, achieving high reproducibility and precise dispensing of micro-quantities. Resistant to high viscosity and high-filler materials, with excellent uniformity in continuous bead formation. Easy to implement synchronized start/stop control and prevent thread breakage through reverse rotation. Combined with temperature control and/or closed-loop control, it contributes to stability and yield improvement in mass production.



JET system



The JET system, also known as a non-contact dispenser, is a method that dispenses fluid by ejecting it from the tip of a nozzle. This system enhances productivity not only due to its fast dispensing speed but also because it eliminates the need to move the nozzle up and down during dispensing. This reduces the risk of collision with the workpiece, enabling high-speed and stable dispensing even for workpieces with steps or complex shapes. This system is currently seeing an increasing number of implementation cases.

For details, see →P18~

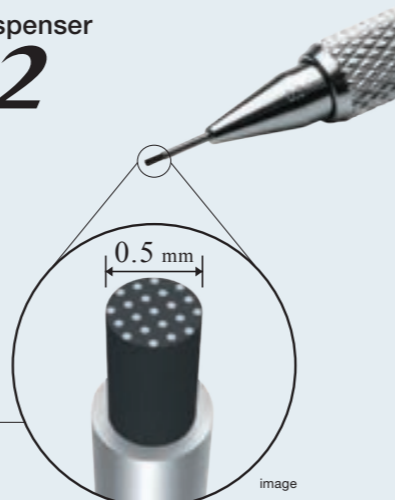
The pinnacle of JET system

Ultra-small, non-contact JET dispenser

Hyper Jet 2



Ultra-fine dispensing
φ40 μm
Ag paste
(R&D level)



Volumetric measuring system

This system controls the amount of moving fluid material and dispenses it, featuring the ability to set the dispense volume or mass. It enables stable dispensing volume, less affected by fluctuations in fluid viscosity or remaining quantity.

Plunger pump system

For details, see →P26~

High-performance MOHNO system

For details, see →P28~

Ultra-small determination system

For details, see →P30~



MEASURING MASTER
MPP-5-M



MOHNO MASTER



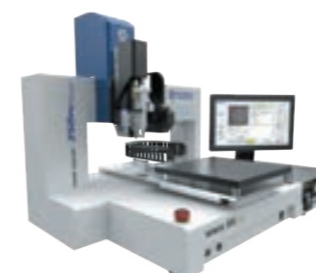
NANO MASTER SMP-MS



SCREW MASTER 3

For details, see →P32~

Examples of System Implementation



Desktop robot

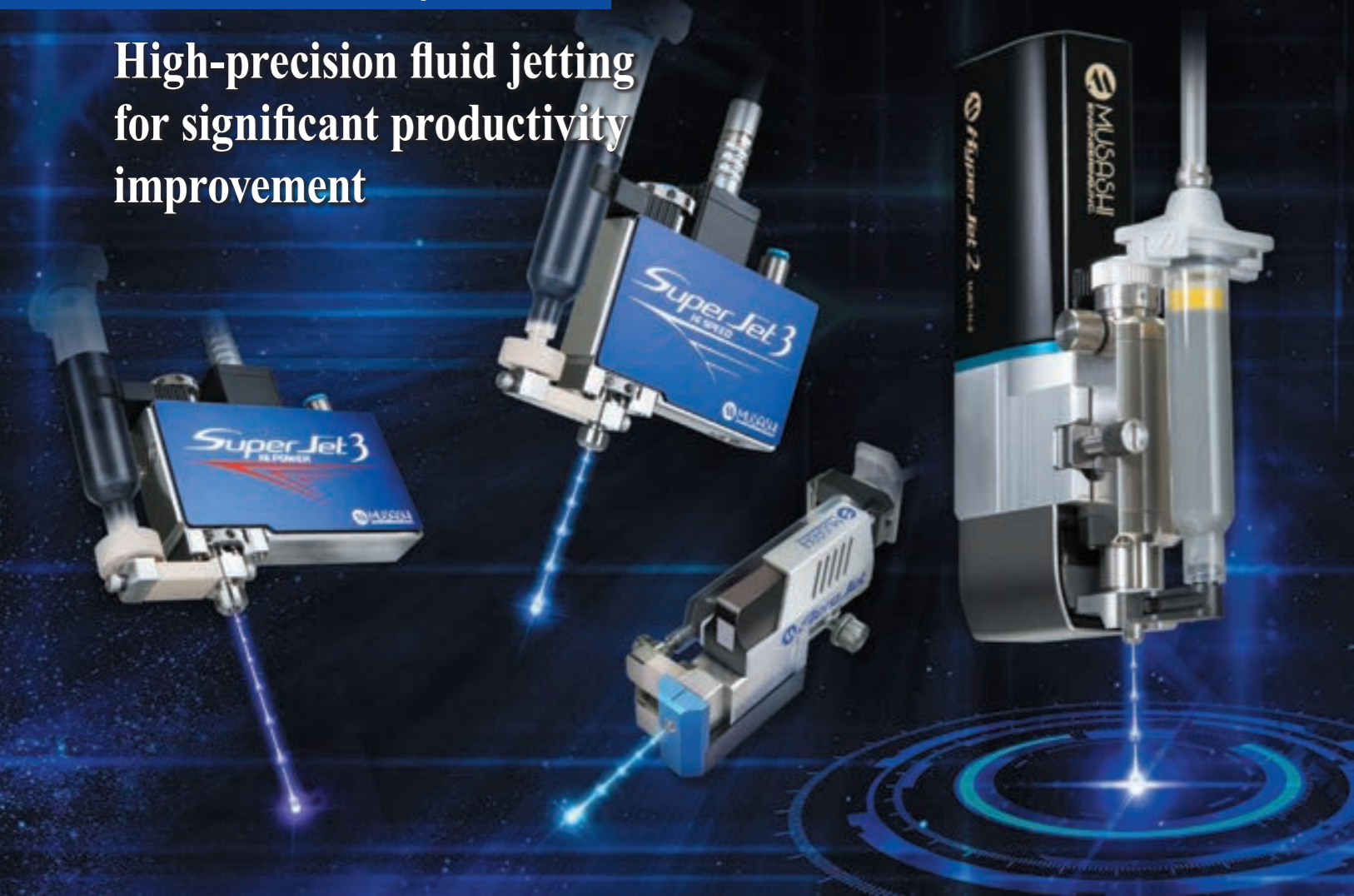


Cartesian robot



FA dispense machine

High-precision fluid jetting for significant productivity improvement



Non-contact and ultra-high-speed dispensing takt time implemented

Flies droplets with high precision from a position away from a workpiece and achieves all-directional dispensing from bottom, horizontal, or slanted directions. Significantly effective for dispensing on substrates having uneven surfaces or areas too narrow and small to insert a nozzle. Consistent dispensing, regardless of warped workpieces or individual tolerances. No Z-axis movement and gap control required. Dispensing microdots at high-speed with high-precision and reliable consistency. These JET dispensers will contribute to great improvement of productivity what contact dispensing have never achieved.

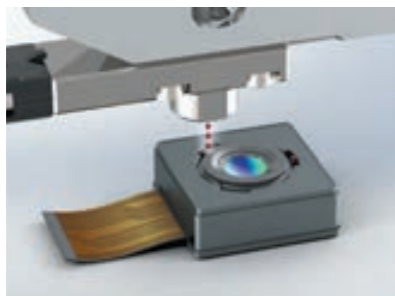
Ideal for micro-point and micro-amount application.

A wide range of lineup for liquid materials and applications.

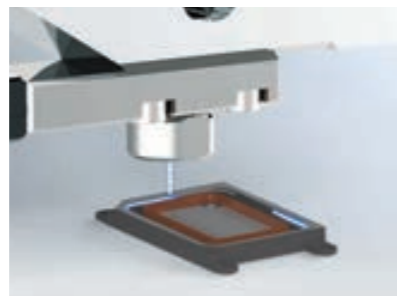
Applicable fluid materials

UF material, Solder paste, Ag paste, Adhesive with filler, Encapsulant, Coating material, UV curable adhesive, Epoxy resin, Grease, Flux, Pure water, etc.

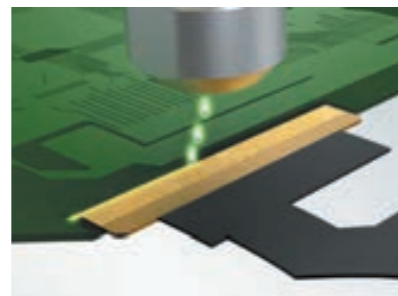
Applications



UV dispensing on camera modules



Speaker Cover Adhesion



TAB reinforcement

JET Dispensers Lineup and Quick Reference						
Item name	HyperJet 2	SuperJet 3 Hi POWER	SuperJet 3 Hi SPEED	AeroJet	CyberJet 2	
Maximum operating frequency	Max:400 Hz	Max:1,000 Hz	Max:2,000 Hz*1	Max:333 Hz	Max:133 Hz	
Minimum dispensing volume	*	0.7 nL/shot~	0.4 nL/shot~	4 nL/shot~	24 nL/shot~	
Applicable fluid material viscosity (Reference value)	*	500 to 2,000,000 mPa·s	50 to 1,000,000 mPa·s	50 to 300,000 mPa·s	1 to 2,000 mPa·s	
Recommended fluid	Coating material		○	○		
	Ag paste	○	○	○		
	Solder paste	○			○	
	UV curable adhesives	○	○		○	
	Silicon		○			
	Grease				○	○ (dry type)
	Underfill	○	○	○	○	
	Chemical					○
	Solvent					○

* We will explain the details after discussing your specific requests and the application.
*1 For fully continuous dispensing: 1,000 Hz

JET Dispenser Features

Capable of micro dispensing with high precision

Dispenser: SuperJet2 Fluid materials: Ag paste
Work: Copper plate AVE: φ0.3 mm Dispensing accuracy: ±5.7%

No need to descend the Z-axis during dispensing, shortening the tact time.

Unaffected by workpiece distortion or warping

Capable of dispensing to narrow pitches where nozzles cannot fit

No damage to the workpiece (e.g., wire) due to contact with the nozzle

Can be applied from the bottom, horizontal, and slanted directions

Ultra-small, non-contact JET dispenser



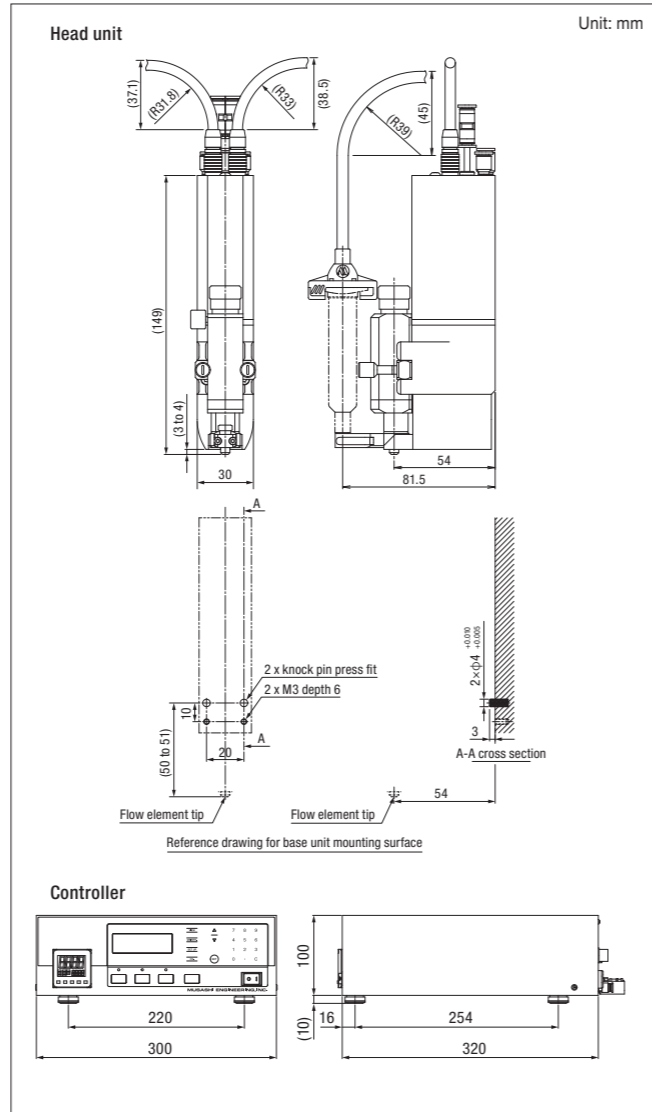
Beyond common sense—ultra-fine JET dispensing.

- Ag paste can be applied with $\phi 40 \mu\text{m}$. (R & D level)
- Compliant with standards: CE Marking (Low Voltage Directive, EMC), EU RoHS2.

Head unit Specification

Item name	Ultra-small, non-contact JET dispenser HyperJet2
Model	MJET-H-2
Dispensing system	JET system
Fluid material supply method	3, 5, 10 (20, 30, 50, 70) mL syringe
Temperature control range	Peltier type: 15°C to 80°C *at ambient temperature of 25°C
Dispensing mode	COUNT mode (dispensing operation for a specified number of times) MANUAL mode (dispensing operation by inputting dispensing signal)
Rated voltage and frequency	AC100-240 V 50/60 Hz
Head unit external dimensions (excluding protrusions)	W30×D86×H150 mm
Head unit Weight	0.6 kg
Controller external dimensions (excluding protrusions)	W300×D320×H110 mm
Controller Weight	10.0 kg
Power consumption	45 W

External dimensions



Solder Paste JET dispenser



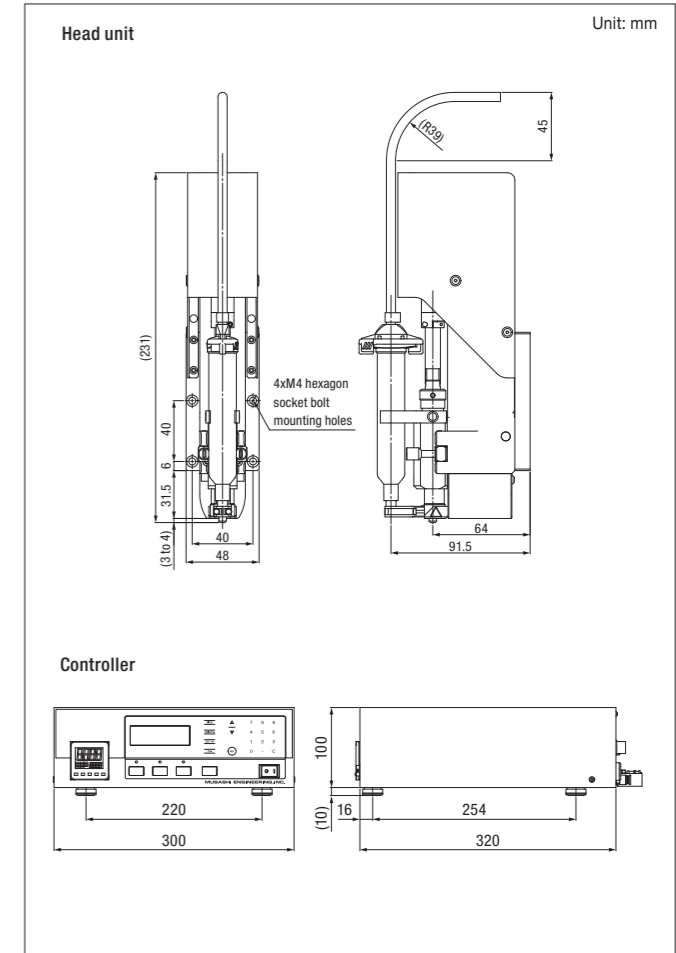
Specifically for Solder paste—the jet dispenser is finally here.

- Stable dispensing of one million shots at $\phi 100 \mu\text{m}$ is possible.
- New structure prevents clogging by particulate materials. Allows stable dispensing of Ag paste and Au paste.
- Supports uneven surfaces and cavities that are difficult to dispense during the printing process. Not affected by uneven surfaces.
- Capable of rapid production. Achieves superior production capacity by eliminating the need for vertical nozzle movement during dispensing.

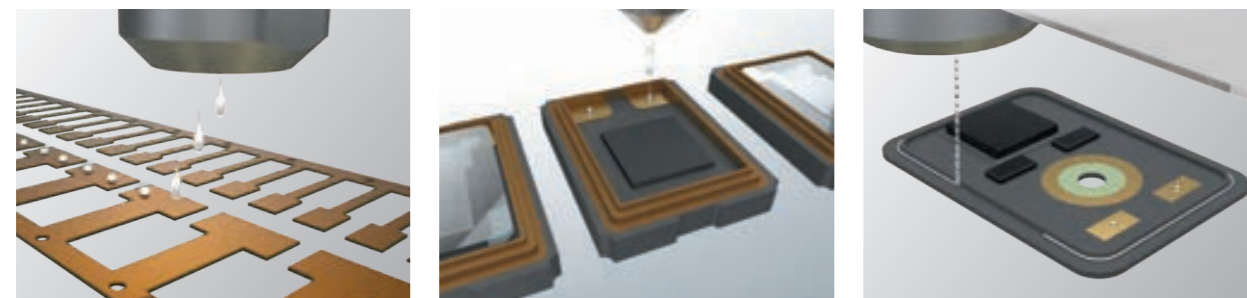
Head unit Specification

Item name	Ultra-small, non-contact JET dispenser HyperJet2
Model	MJET-H-2
Dispensing system	JET system
Fluid material supply method	3, 5, 10 (20, 30, 50, 70) mL syringe
Temperature control range	Peltier type: 15°C to 80°C *at ambient temperature of 25°C
Dispensing mode	COUNT mode (dispensing operation for a specified number of times) MANUAL mode (dispensing operation by inputting dispensing signal)
Rated voltage and frequency	AC100-240 V 50/60 Hz
Head unit external dimensions (excluding protrusions)	W30×D86×H150 mm
Head unit Weight	0.6 kg
Controller external dimensions (excluding protrusions)	W300×D320×H110 mm
Controller Weight	10.0 kg
Power consumption	45 W

External dimensions

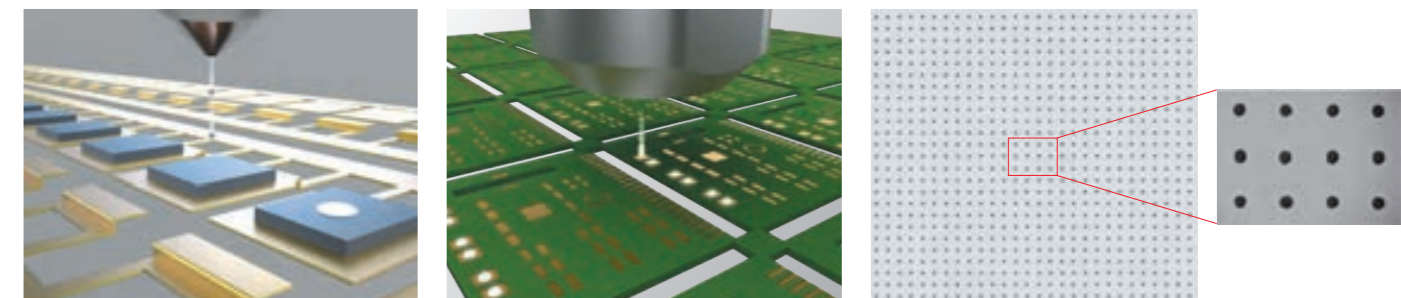


Applications



Discrete die attach Ag paste dispensing for quartz crystal unit Lid sealing for MEMS sensors

Applications



Diode clip mounting Chip mounting Solder paste Type8 $\phi 100 \mu\text{m}$

Ultra-small volume, non-contact JET dispenser

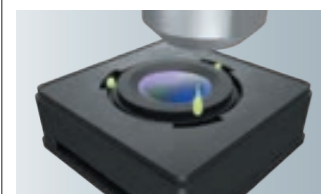


The pursuit of high reliability and quality.

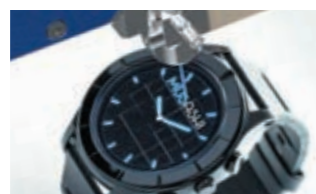
- Compatible with high-viscosity materials such as adhesives and conductive pastes. Up to a maximum of 2,000,000 mPa·s.
- Minimum dispensing diameter: $\phi 120 \mu\text{m}$.
- Compliant with standards: CE Marking (Low Voltage Directive, EMCD), EU RoHS2.
- SynchroSpeed Function support. [For details, see P61]

The pursuit of high reliability and quality.

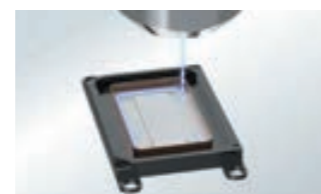
- MAX: 2,000 shots per second.
- Minimum dispensing diameter: $\phi 110 \mu\text{m}$.
- Compliant with standards: CE Marking (Low Voltage Directive, EMCD), EU RoHS2.
- SynchroSpeed Function support. [For details, see P61]



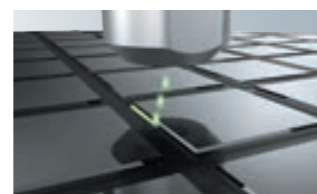
UV dispensing on camera module



Applying fluorescent paint to wristwatches



Adhesion of vibrating diaphragm to speaker



Underfill to CoW

Features and Evolutions of the Series

Enhancement in speed and flight performance

The rigidity of the head is greatly improved.
 Hi SPEED: Maximum frequency increased by approx. 67%!
 Hi POWER: About 70% increase in liquid dispersal power! *
 * The force applied to the liquid material during dispensing, measured according to our proprietary standards

Contribute to cost reduction

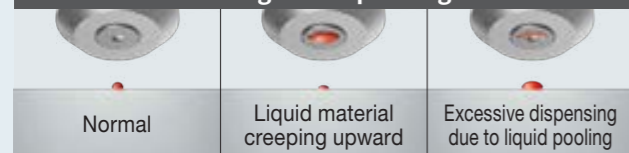
Reduces impact on nozzles and rods during dispensing of low-viscosity liquid materials.
 Reduce liquid material waste during cleaning. (50% reduction in wetted part flow path volume)
 Improved durability.

Optional dedicated nozzle cleaner

Option

Removes liquid that has climbed up the nozzle, maintains a consistent shape of the liquid at the nozzle tip, and eliminates variations in dispensing volume. It improves yield.

Variation image of dispensing amount



Improved work efficiency

The time required to attach and detach the fluid feeding unit has been reduced to one-third of the original time. Improved workability when changing syringes. Improved dispensing volume reproducibility after disassembly and assembly.



Simply set the fluid feeding unit and syringe, then tighten the lock nut. The syringe fixing mechanism is now slide-type, making replacement easier.

Temperature control unit MJET-S-3-NZTB option

Option

Can be mounted on either the front or side depending on the operating environment. Improves the flowability of liquid materials.



Optimal for multiple-unit specifications!

Head unit Specification

Item name	non-contact JET dispenser SUPER JET 3 HI SPEED	non-contact JET dispenser SUPER JET 3 HI POWER
Model	MJET-S-3	
	-HS-HU-L	-HS-HU-M
Actuator type	MJET-S-3-HS-ACT	
	-HP-HU-L	-HP-HU-M
Rod type	MJET-S-3-ROD-L	MJET-S-3-ROD-M
Dispensing system	JET system	
Operating frequency	1,000 Hz	600 Hz
Maximum operating frequency	2,000 Hz	1,000 Hz
Allowable dispensing pressure	Max. 0.500 MPa	
Allowable fluid feed part temperature	Max. 80°C	
External dimensions	W21×D82×H94.9 mm	W21×D92×H94.9 mm
Weight	0.41 kg	0.44 kg
	(Including cable and connector Excluding fluid material and material container)	
Compliant with standards	EU RoHS2, CE marking (Low Voltage Directive, EMCD)	

Head controller Specification

Model	MJET-S-CTR-RM-3	
Power supply unit	MJET-S-CTR-RM-PW-A	MJET-S-CTR-RM-PW-B
Fluid feed pressure setting range	0.010 to 0.500 MPa Set to a pressure below the allowable pressure of the liquid material container. Can be set only when MJET-S-CTR-RM-PW-A is used	
Source pressure	Max. 0.7 MPa Recommended supply pressure: Pumping pressure +0.1 MPa or more	—
External Input-output Signal	Connector	D-Sub 25-pin (socket)
	Input	photocoupler input DC24 V, 5 mA Dispensing request, dispensing mode switching, channel switching
	Output	Output Photo-coupler open collector output 24 VDC, 10 mA or less Dispensing completed, Dispensing in progress, Error, Alarm, Busy, Powered
Rated voltage and frequency	AC100-240 V, 50/60 Hz	
Power consumption	Max. 150 W	
Head controller Mounting specifications	19" subrack (IEC60297-3, DIN41494), 3U x 21 HP	
External dimensions (excluding protrusions)	Head controller W106×D171.3×H128.4 mm Power supply unit W140×D239×H108 mm	
Weight	Power supply unit 2.0 kg	Power supply unit 1.7 kg
Compliant with standards	EU RoHS2, CE marking (Low Voltage Directive, EMCD)	

Temperature controller specification

Model	TCU-DC24-1
Heating method	Cartridge heater method
Rated voltage and frequency	AC100-240 V 50/60 Hz
Power consumption	Max. 68 W
External dimensions (excluding protrusions)	W120×D140×H90 mm
Weight	1.0 kg

Common head controller



Compact size compatible with 19-inch racks. A new mode has been added that allows direct setting of the force applied to the liquid agent instead of detailed parameters. Three dispensing counters for easy maintenance cycle management.

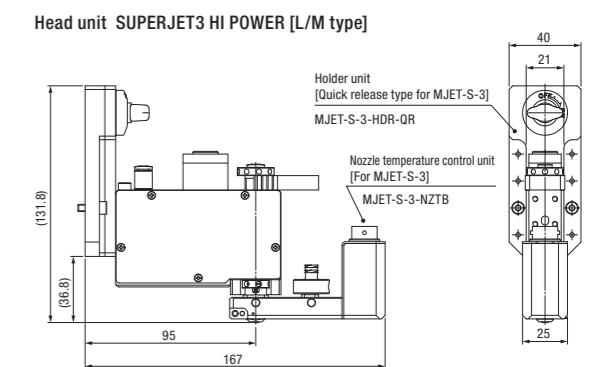
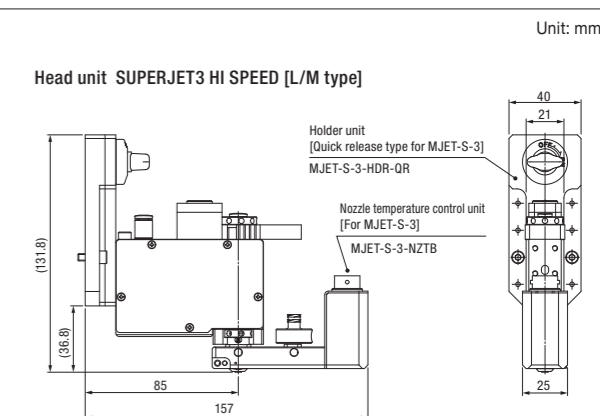
New function

LINE dispensing assistance function

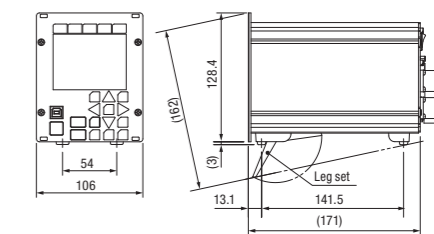
Improved stability in line-drawing dispensing with the LINE mode.



External dimensions

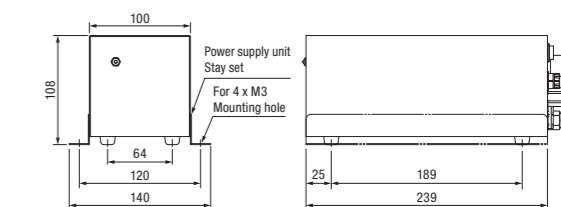


Common head controller MJET-S-CTR-RM-3

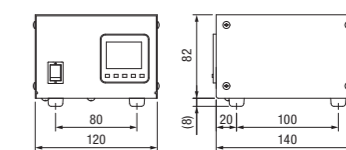


Power supply unit for common head controller MJET-S-CTR-RM-PW-A, MJET-S-CTR-RM-PW-B

* Not required when DC24 V is supplied from an upstream device.



Temperature controller TCU-DC24-1



Mid and High viscosity • Non-contact JET dispenser

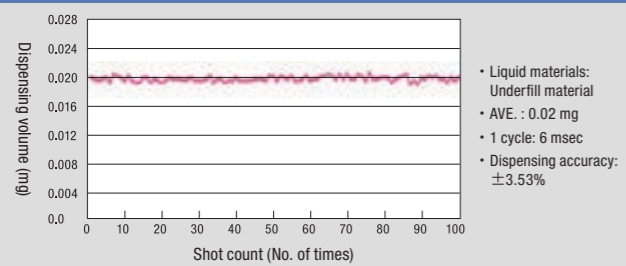


High-speed and high-precision JET. Major reduction in production takt time.

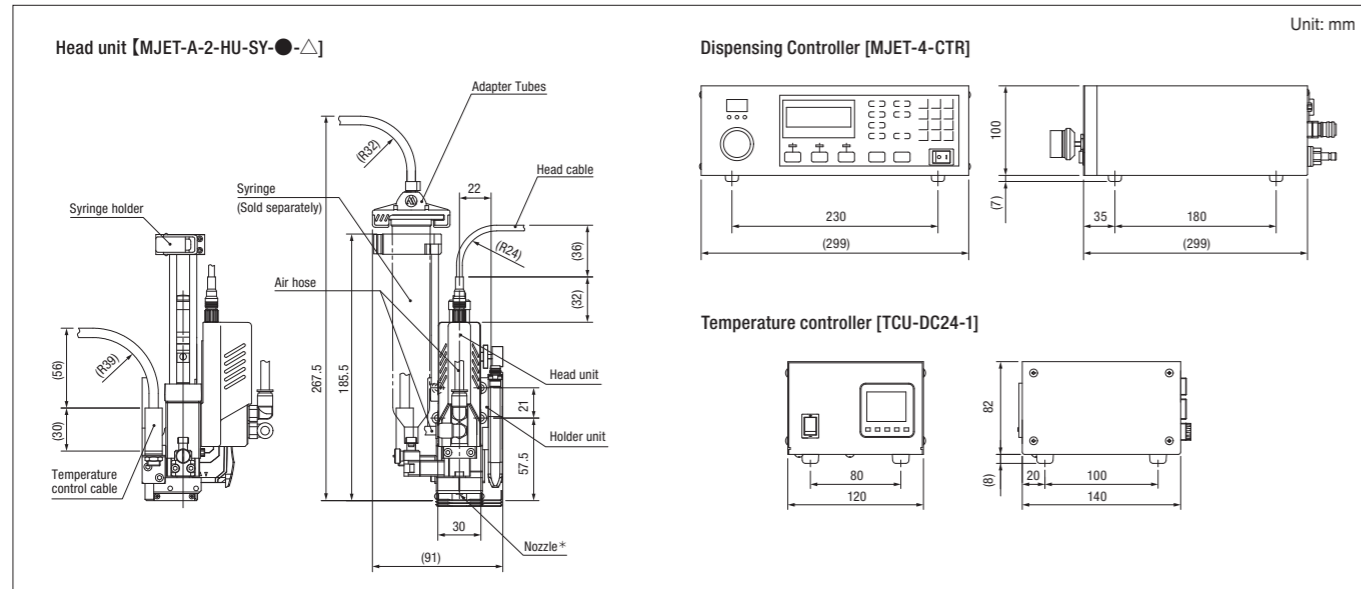
- “Pinpoint shooting” with non-contact JET.
- Better production takt time with high-speed dispensing.
- Cut costs by reducing wasted Fluids.
- Compatible Standards: CE marking (Low Voltage Directive, EMC), EU RoHS2.
- Synchro Speed function support. [For details, see →P61]

Note: Holder unit is non-CE marked.

Dispensing accuracy of underfill material by AEROJET



External dimensions



Note: When equipped with PSY-50F
*1 The length of the protrusion varies depending on the attached nozzle.

Head unit Specification

Item name	Non-contact JET dispenser AEROJET	
Model	MJET-A-2-HU-SY-●-△	MJET-A-2-HU-TU-●-△
Dispensing system	Jet system	
Fluid material supply method	Syringe (for 5 to 70 mL)	Tank
Allowable fluid feed part temperature	Max. 80°C (heated temperature control unit included with holder unit)	
External dimensions (excluding protrusions)	W75×D74.5×H138 mm	W69.5×D74.5×H138 mm
Weight	0.46 kg (excluding liquid materials and liquid material containers)	

●: S, M, L, SS-HD, S-HD, M-HD, ST-HD
△: L, R

Head controller Specification

Model	MJET-4-CTR-2	
Fluid feed pressure setting range	0.005 to 0.700 MPa Please set according to the allowable pressure of the connected device or liquid material container.	
Source pressure	Max. 0.800 MPa Recommended supply pressure : Pumping pressure + 0.100 MPa min.	
External input-output signal D-Sub	Connector	D-Sub 25-pin (socket)
	Input	photocoupler input 24 VDC, 5 mA External dispensing, dispensing mode switching, channel switching
	Output	Photo-coupler Open collector output 24 VDC, 10 mA or less Dispensing completed or in progress, solenoid valve actuation, pressure drop, mode status, power ON
Rated voltage and frequency	AC100-240 V 50/60 Hz	
Power consumption	110 W	
External dimensions (excluding protrusions)	W300×D250×H107 mm	
Weight	4.0 kg	

Temperature controller specification

Model	TCU-DC24-1	
Heating method	Cartridge heater method	
Rated voltage and frequency	AC100-240 V 50/60 Hz	
Power consumption	Max. 68 W	
External dimensions (excluding protrusions)	W120×D140×H90 mm	
Weight	1.0 kg	

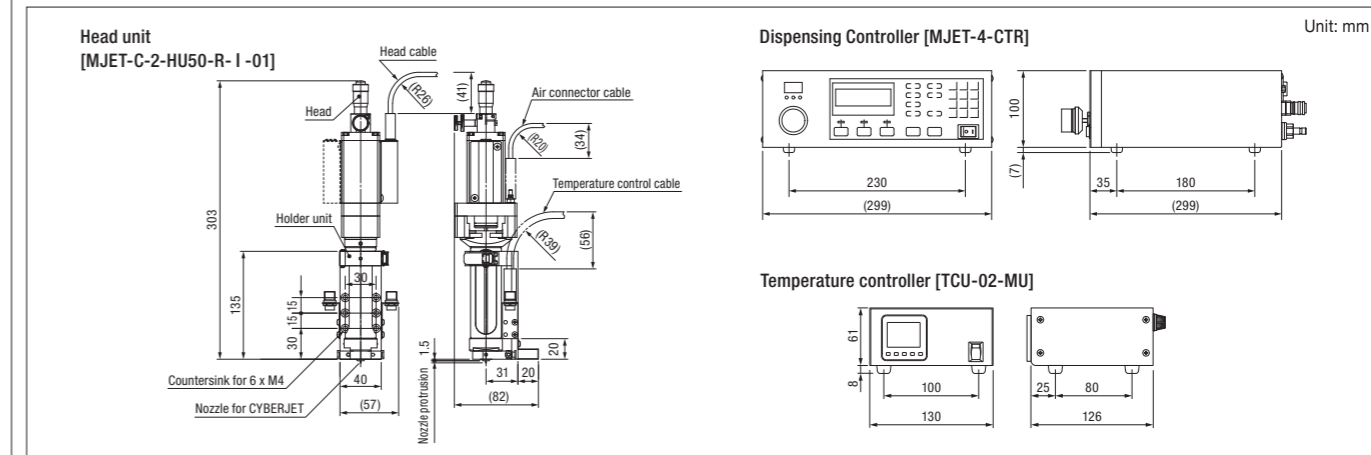
Low-viscosity • Non-contact JET dispenser



JET Dispensing Low-viscosity micro-droplets without scattering!

- Dead volume “zero”
- Ideal for non-contact dispensing of low viscosity fluids.
- Dry lubricant is applied without clogging when used with Stirring system.
- Applicable for immunochromatography line dispensing. [For details, see →P76]
- Compatible Standards: EU RoHS2
- Synchro Speed function support. [For details, see →P61]

External dimensions



Head unit Specification

Item name	Non-contact JET dispenser CYBERJET2	
Head unit model	MJET-C-2-HU-●-△-■-01	
Dispensing system	Jet system	
Fluid material supply method	Syringe (for 5 to 70 mL)	
Allowable fluid feed part temperature	Max. 50°C (with heated temperature control in holder unit)	
Head unit dimensions	W54.5 mm×D61 mm×H303 mm *	
Head unit weight	Approx. 760 g (Head unit: 590 g, Holder unit: 170 g) * Excluding syringe and liquid material	

●: 5, 10, 20, 30, 50, 70 △: L, R ■: I, III, V
* When equipped with PSY-50F

Head controller Specification

Head controller model	MJET-4-CTR-2	
Fluid feed pressure setting range	0.005 to 0.500 MPa	
Source pressure	Max. 0.800 MPa Recommended pumping pressure: fluid feed pressure + 0.100 MPa	
Rated voltage and frequency	AC90 to 240 V 47 to 63 Hz	
Power consumption	62 W	
Head controller dimensions	W235×D324×H106.8 mm	
Head controller weight	4.0 kg	

Temperature controller specification

Temperature controller model	TCU-02-MU	
Temperature controller external dimensions	W130×D132×H69 mm	
Temperature controller weight	1.04 kg	

JET Derived Applications

Grease JET dispense system



Stirring system for CYBERJET2



HOT MELT JET Dispenser



Ultra-precision constant volume dispensing of fluid material with viscosity fluctuation.



Potting on sensor components

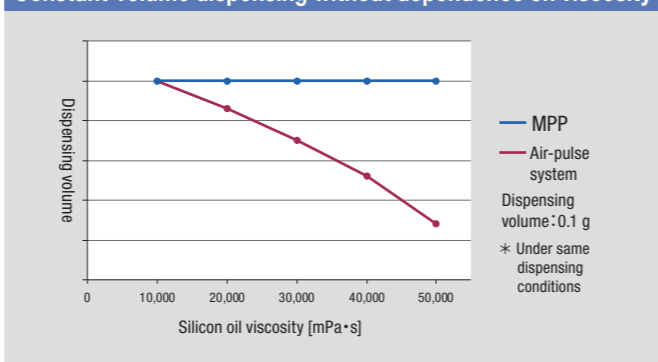


Ultra-precise dispensing implemented by the volume measuring type digital control plunger.

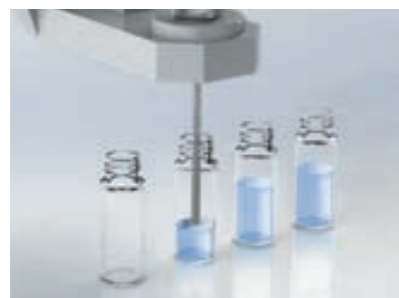
MEASURING MASTER MPP

Volumetric digitally controlled dispenser series for precise metered dispensing of fluids with viscosity fluctuation. Applications include potting various electronic components, dispensing reagents into vials, gasket dispensing, and OCR dam/fill.

Constant-volume dispensing without dependence on viscosity



Applications



Dispensing reagents into vial bottles



CIPG (gasket)



OCR (DAM)

MEASURING MASTER MPP-5-S / MEASURING MASTER MPP-5-M



Ultra-precision constant volume dispensing of fluid materials with viscosity fluctuation.

- Equipped with a newly developed overload detection function.
- Expansion of pump capacity and liquid material supply methods.
- Added convenient functions for production control. (error log function, confirmation of total distance traveled)

Features of the MPP-5-M

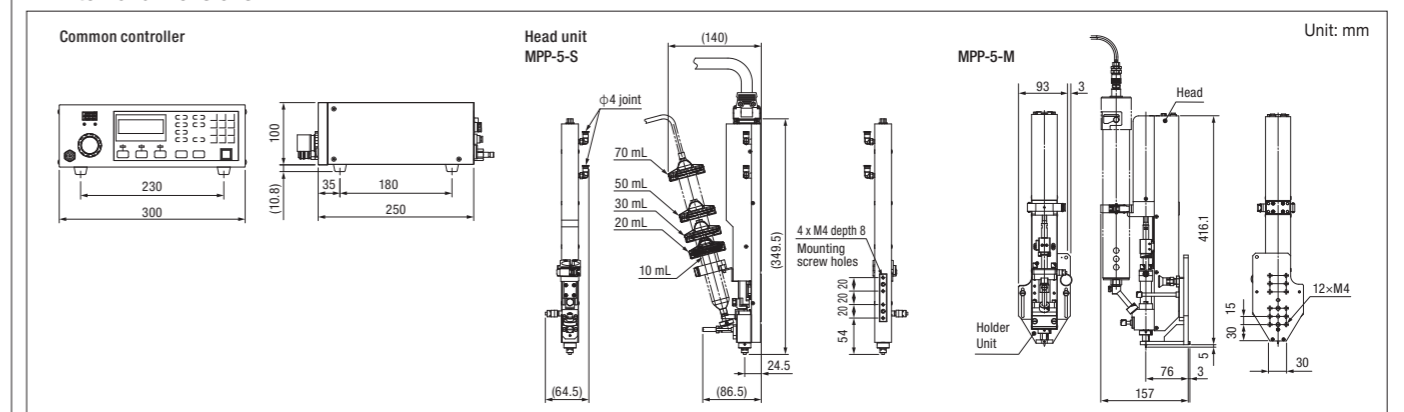
- Pump unit capacity significantly increased. Pail compatible.
- Productivity is further improved by reducing the number of liquid material fills.

Specifications

Item name	Volumetric digital dispenser MEASURING MASTER									
Model	MPP-5-S					MPP-5-M				
Dispensing system	Volumetric and plunger method									
Dispensing volume setting range	0.00001 to 0.03100 mL	0.00001 to 0.05600 mL	0.00001 to 0.12700 mL	0.00001 to 0.22600 mL	0.00001 to 0.50800 mL	0.0001 to 1.2000 mL	0.0001 to 3.2000 mL	0.0001 to 5.1000 mL	0.0001 to 7.3000 mL	0.0001 to 7.3000 mL
Fluid feed pressure setting range	0.001 to 0.500 MPa									
Source pressure	0.400 to 0.800 MPa									
Fluid material supply method	Our syringes (for 10 to 70 mL), tanks, sealant cartridges, tubing cartridges, barrel cartridges (for 170 to 340 mL)					Our syringes (for 50 to 70 mL), tanks, sealant cartridges, barrel cartridges (for 170 to 340 mL)				
Rated voltage and frequency	AC 100-240 V, 50/60 Hz									
Power consumption	75 W									
External dimensions (excluding protrusions)	Head unit: W64.5×D86.5×H349.5 mm Controller unit: W300×D250×H110.8 mm					Head unit: W68.1×D141×H408 mm * Controller unit: W300×D250×H110.8 mm				
Weight	Controller unit: Approx. 4.6 kg / Head unit: 0.94 kg (not including liquid material and container)					Controller unit: Approx. 4.6 kg / Head unit: Approx. 2.8 kg (not including container and liquid agent)				

*1 The height for applying single-liquid dispensing. Height for 2-component mixed dispensing is 391 mm.

External dimensions



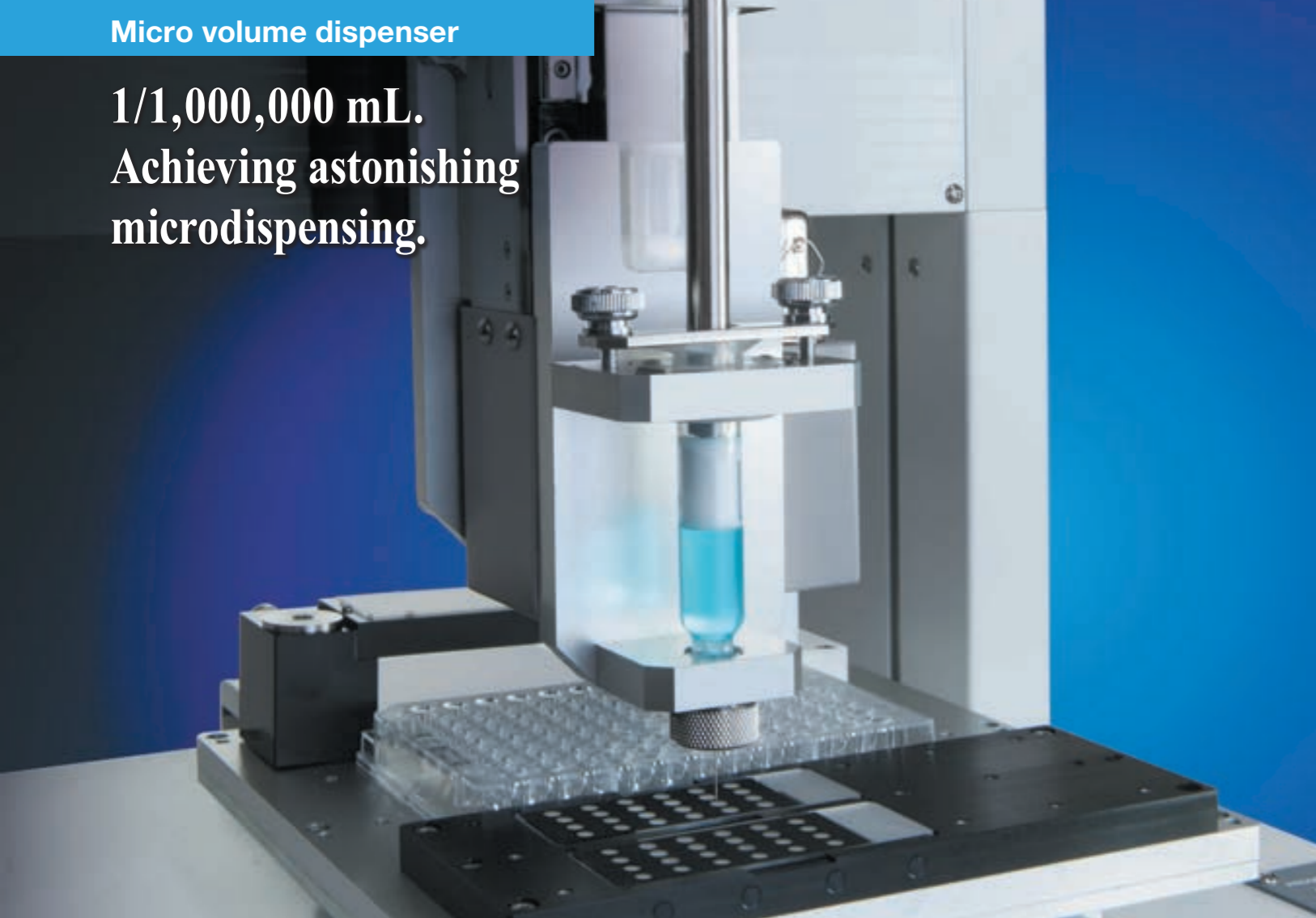
MEASURING MASTER MPP-1



Specifications

Item name	Volumetric digital dispenser MEASURING MASTER
Model	MPP-1
Dispensing system	Volume measuring type
Pump capacities	0.15 mL (standard type / B1 type), 0.30 mL, 0.65 mL
Fluid feed pressure setting range	0.001 to 0.500 MPa
Source pressure	0.400 to 0.800 MPa
Fluid material supply method	Syringe (10 to 70 mL Use)
Rated voltage and frequency	AC 100-240 V 50/60 Hz
Power consumption	25 W
External dimensions (excluding protrusions)	Controller section: W300×D250×H111 mm Head section: W25×D86.5×H320 mm
Weight	Controller section: approx. 4.5 kg Head section: 0.85 kg (not including fluid material and container)

1/1,000,000 mL.
Achieving astonishing
microdispensing.



**Demonstrates power for ultra-small volume dispensing/high precision dispensing/
multi-channel dispensing/filling of fluid medicine, solvents and volatile materials.**

Newly developed by MUSASHI, **NANO MASTER** series are digitally controlled plunger-type ultra-low volume dispense system exclusively designed for ultra-low volume. The minimum dispensing volume of 1/1,000,000 mL enables ultra-low volume dispensing, and the fully digital control system provides excellent repeatability. It demonstrates outstanding performance in ultra-low volume dispensing of low-viscosity fluid materials such as solvents and volatile fluids, precision dispensing, metered volume filling, etc. From R&D to mass production of electronic components, optical devices, pharmaceuticals, etc., we can handle a wide range of applications in various fields.



Example of FA dispense machine with micro syringe specifications

Suitable products

Semiconductors, Liquid Crystal Substrates, and Electronic Components. Precision Machinery such as Watches, Cameras, Optical Instruments, etc., Medical Supplies, Foodstuffs, etc.

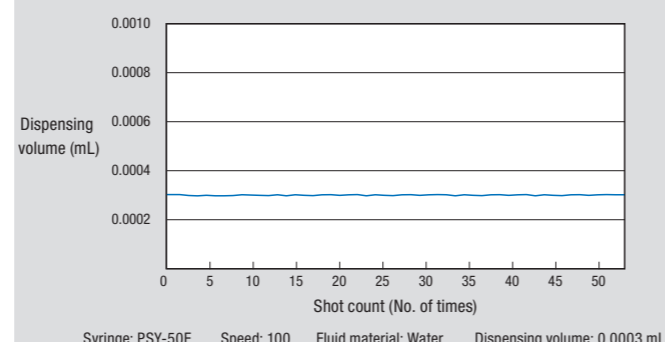
Applicable dispensing materials

Best suited for low viscosity fluid materials. Alcohol, volatile fluids, UV curable adhesives, etc.

Applications

Micro filling, Micro dispensing, Point dispensing, Line dispensing, Gluing, Potting, etc.

Dispensing volume precision by NANO MASTER SMP-III



Ultra-small dosage dispenser

NANO MASTER SMP-MS



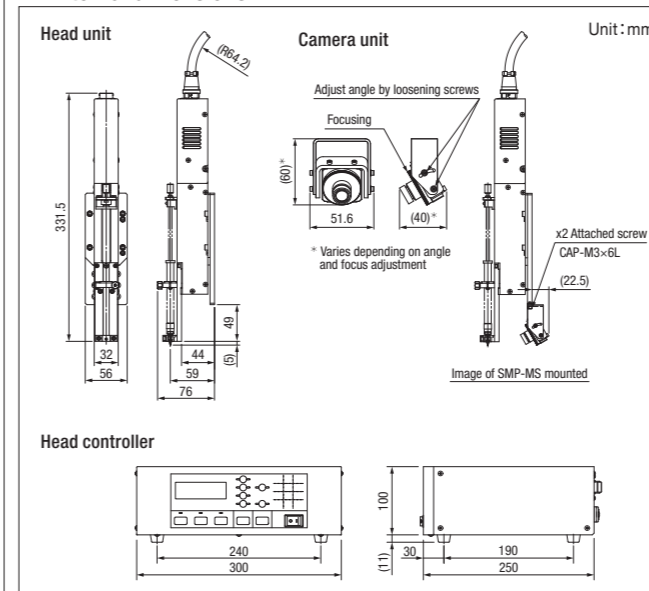
nL level volume, ultra-high-precision dispensing.

- Reduction of the head size. Approx 1/4 the volume and 1/2 the weight of existing models.
- Reduced syringe setup time. Reduced by approx. 50%.
- The nozzle tip observation camera can be equipped (optional).
- Equipped with a use-up position correction function. Further reduction of dead volume.
- Compatible Standards: CE marking (Low Voltage Directive, EMCD), EU RoHS2.
- Synchro Speed function support. [For details, see →P61](#)

Specifications

Item name	Ultra-small dosage dispenser NANO MASTER SMP-MS	
Model	SMP-MS	
Dispensing system	Volume measurement system	
Fluid material supply method	0.05, 0.1, 0.25, 0.5, 1.0, 2.5 mL micro syringe (MSY series) 1, 3, 5 mL syringe (PSY series)	
Dispensing volume setting range	micro syringe	0.05 mL syringe : 0.0001 to 50.0000 µL 0.1 mL syringe : 0.0001 to 100.0000 µL 0.25 mL syringe : 0.0001 to 250.0000 µL 0.5 mL syringe : 0.001 to 500.000 µL 1.0 mL syringe : 0.001 to 1000.000 µL 2.5 mL syringe : 0.001 to 2500.000 µL
	syringe	1 mL syringe : 0.001 to 1000.000 µL 3 mL syringe : 0.002 to 3000.000 µL 5 mL syringe : 0.004 to 5000.000 µL
Rated voltage and frequency	AC100-240 V 50/60 Hz	
Power consumption	45 W	
Dispense head unit dimensions	W32×D67×H331.5 mm	
Dispense head unit weight	0.9 kg (excluding liquid material and liquid material container)	
Controller dimensions	W300×D250×H111 mm	
Weight of dispense controller	4.5 kg	

External dimensions



Ultra-small dosage dispenser

NANO MASTER SMP-III



nL level volume, ultra-high-precision dispensing.

- High stability dispensing by digital control and measurement system.
- Unique plunger mechanism and suck back function eliminate fluid drips.
- Compatible with micro-syringes, for high-precision dispensing of nano-volume fluid.
- Compatible Standards: CE marking (Low Voltage Directive, EMCD), EU RoHS2.
- Synchro Speed function support. [For details, see →P61](#)

Specifications

Item name	Ultra-small dosage dispenser NANO MASTER	
	SMP-III type 30 mL	SMP-III type 50 mL
Model	SMP-3-30	SMP-3-50
Dispensing system	Volume measurement system	
Fluid material supply method	0.005, 0.5, 1, 5, 10 mL micro syringe 5, 10, 20, 30 mL syringe	5, 10, 20, 30, 50 mL syringe
Dispensing volume setting range *	0.009 to 50000.000 µL	
Rated voltage and frequency	AC100-240 V 50/60 Hz	
Power consumption	45 W	
Dispense head unit dimensions	W89×D123×H300 mm	W89×D123×H381 mm
Dispense head unit weight	2.3 kg	2.5 kg
Controller dimensions	W300×D250×H111 mm	
Weight of dispense controller	4.5 kg	

* With 50 mL syringe installed

Ultra-small dosage dispenser

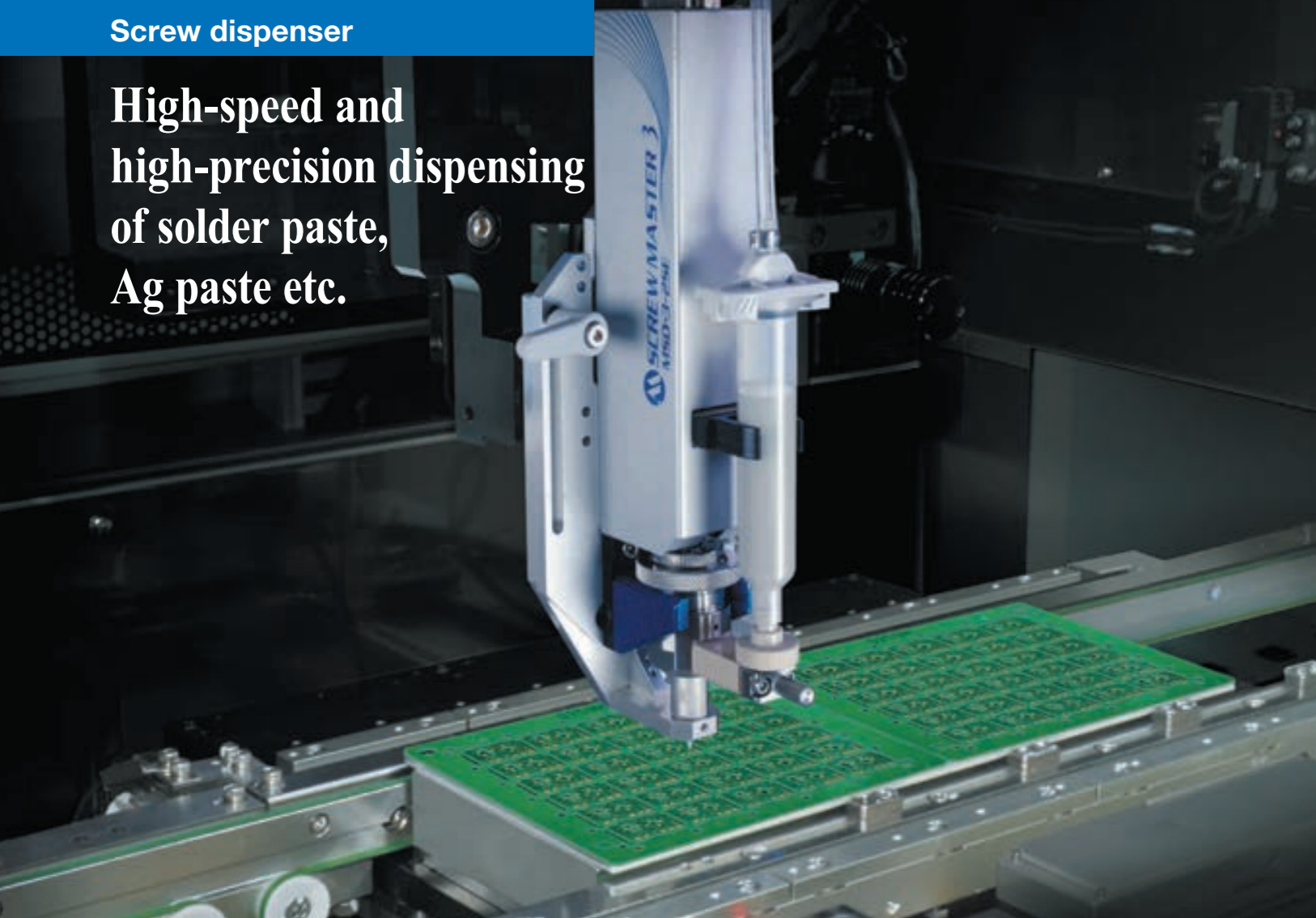
NANO MASTER SMP-II



Economical, super micro-volume dispenser.

- The SMP-II can dispense super small volumes, as tiny as 1/10,000 mL, of low viscosity fluid.
- High stability dispensing is enabled by digital control and measurement system.
- Unique plunger mechanism and suck back function eliminate fluid drips.
- Compatible Standards: CE marking (Low Voltage Directive, EMCD), EU RoHS2.
- Synchro Speed function support. [For details, see →P55](#)

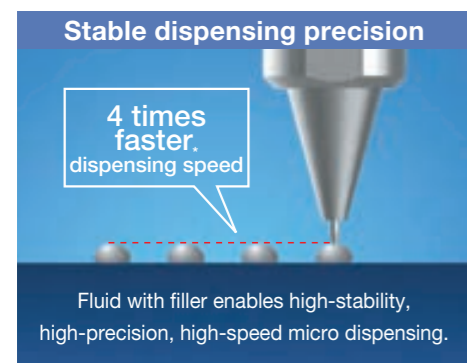
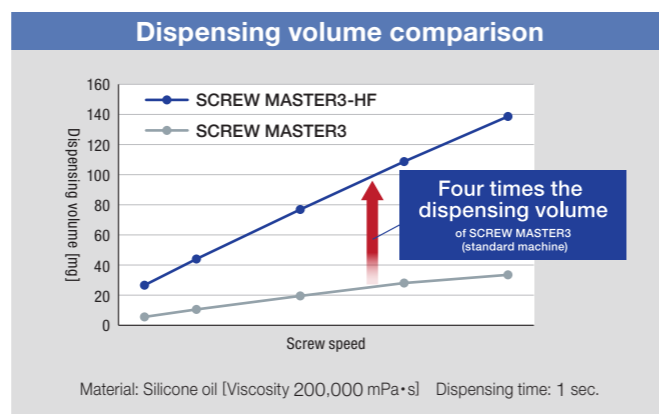
High-speed and high-precision dispensing of solder paste, Ag paste etc.



High-speed stable dispensing of high viscosity fluid containing filler without clogging.

High performance screw dispenser

SCREW MASTER 3 for solder paste, Ag paste, epoxy resin, grease, etc., where stable, high-speed, high-precision dispensing is required. The unique screw mechanism eliminates dispensing volume variation and fluid accumulation, enabling highly stable and precise micro-dot dispensing and line drawing. In addition, the syringe can be easily replaced, promising high work efficiency. It satisfies the severe requirements for the application of particle-containing materials and high-viscosity materials at a high level.



* Comparison of Air-pulse

Applications



Solder paste dispensing



Ag paste dispensing

SCREW MASTER series Lineup and quick reference table

Item name	SCREW MASTER 3-HF		SCREW MASTER 3		HOT MELT SCREW MASTER	SCREW MASTER Applicable to high-viscosity radiation grease Dispensing	
	Flow rate	High flow		Standard		Standard	High flow
Rod type	Standard	High durability	Standard	High durability	Standard	Standard	
Corresponding fluid	Radiation	Thermal grease	◎	○		◎ (to 1,000,000 mPa·s)	
	Fixation	RTV	◎	○			
		Hot melt				○ (-160°C)	
	Sealing	CIPG/FIPG	○	◎	○	○	
		PUR					◎
Conduction	Solder paste	○		◎			

Common controller

SCREW MASTER series
A common controller that can drive each head of the SCREW MASTER series. Equipped with various functions for various High RPM specification also lined up (option)*

Recommended Functions

- **“Suckback function”** to prevent liquid dripping
- **“Auto increment function”** to automatically switch registered dispensing conditions
- **“Synchro Speed function”** for automatic control of dispensing line width in conjunction with our dispensing robot. [For details, see →P61]
- Compatible Standards: CE marking (Low Voltage Directive, EMC), EU RoHS2.

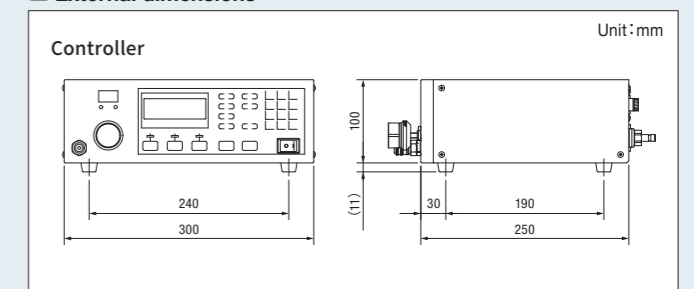


Dispensing controller specifications

Item name	High-performance screw dispenser SCREW MASTER3
Model	MSD-3-2SE-CTR
Fluid feed pressure setting range	0.010 to 0.700 MPa Set to the allowable pressure of the equipment or fluid material container to which it is connected.
Source pressure	Max. 0.800 MPa Recommended supply pressure: Fluid feeding pressure + 0.100 MPa or more
Rated current and frequency	AC 100-240 V 50/60 Hz
External dimensions	W300×D250×H111 mm (excluding protrusions)
Weight	5.2 kg
Power consumption	45 W

Note: High RPM specifications require prior evaluation.

External dimensions



PAT.

Best suited for small-volume dispensing of low-viscosity anaerobic adhesive and for continuous dispensing of small volume at high precision.



Best suited for small volume dispensing of low viscosity materials such as instant adhesive at high precision

The **MT** series tubing dispensers are effective for a wide range of dispensing needs, from minute intermittent dispensing to continuous dispensing of low-viscosity anaerobic fluids such as instant adhesives.

Unique rotary tubing mechanism eliminates dispensing volume variation and contributes to longer tube life. Fluid material is suctioned directly from the container without using air pressure and is dispensed through the fluid feed tube only, promoting a significant improvement in the work environment and safety and hygiene. Moreover, the tube can be attached with a single touch. Allows anyone to easily achieve high-precision dispensing without troublesome adjustments. It can also be mounted on manual to automated machines, making it suitable for a wide range of applications.



Simple and secure tube attachment

Suitable products

Printed circuit boards, and coils. Precision equipment such as watches and cameras.

Applicable dispensing materials

Instant adhesives, Anaerobic adhesives, UV curable adhesives, Silicone oils, Threadlockers, Solvents, Fluxes, Inks, Paints, etc.

Applications

Bonding, Potting, Coating, Point dispensing, Line dispensing, Injecting, filling, etc.

Dispensing volume precision by tubing method

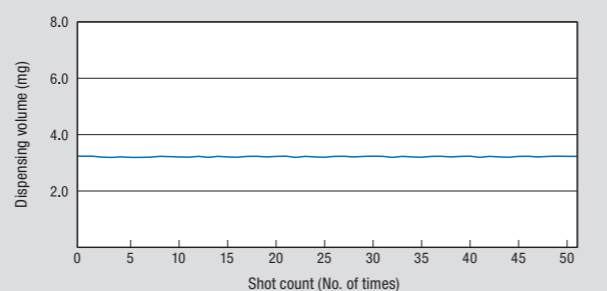


Table: TT-16 Material: Silicone oil (0.1Pa·s) Dispensing time: 0.015 s
 AVE: 3.20 mg Dispensing Accuracy: ±4.4%

Rotary tubing dispenser

MT-410



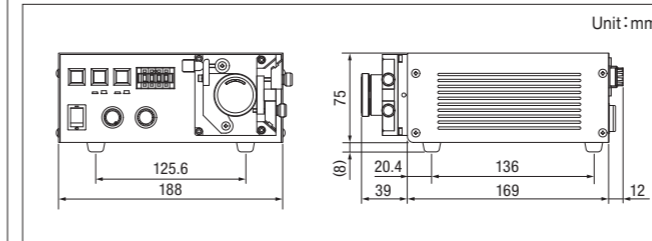
Provide simple and secure quick joint of tube.

- Easy high-precision dispensing without troublesome adjustment.
- Dripping eliminated and bubble generation reduced even for low-viscosity liquid materials.
- Only tube used at wetted part, making maintenance easier.
- Long life of fluid feeding tube thanks to unique installation mechanism.
- “Digital timer” for dispensing time setting with one-touch operation..
- Compatible Standards: CE marking (Low Voltage Directive, EMC2), EU RoHS2.

Specifications

Item name	Rotary tubing dispenser
Model	MT-410
Dispensing system	Rotary tubing system
Dispensing modes	TIMED/MANUAL mode
Dispensing time setting range	0.01 to 99.99 s
Range of rotational speed setting	0 to 120 rpm
Rated voltage and frequency	AC100-240 V 50/60 Hz
Power consumption	25 W
External dimensions	W188×D208×H83 mm
Weight	3.0 kg

External dimensions



Dispenser pen for tubing dispenser



External input switch for tubing dispenser (MT-410).

Item name	Model	Cord length
Dispenser pen	LS-NH3-1604P	1 m



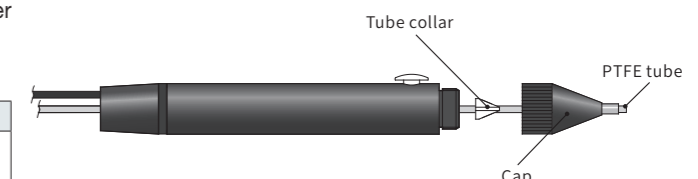
PTFE tube for tubing dispenser List

These fluid feed tubes are made of PTFE for dispensing fluid materials from a tubing dispenser. A variety of tube accessories are available according to fluid's viscosity and dispensing amount.

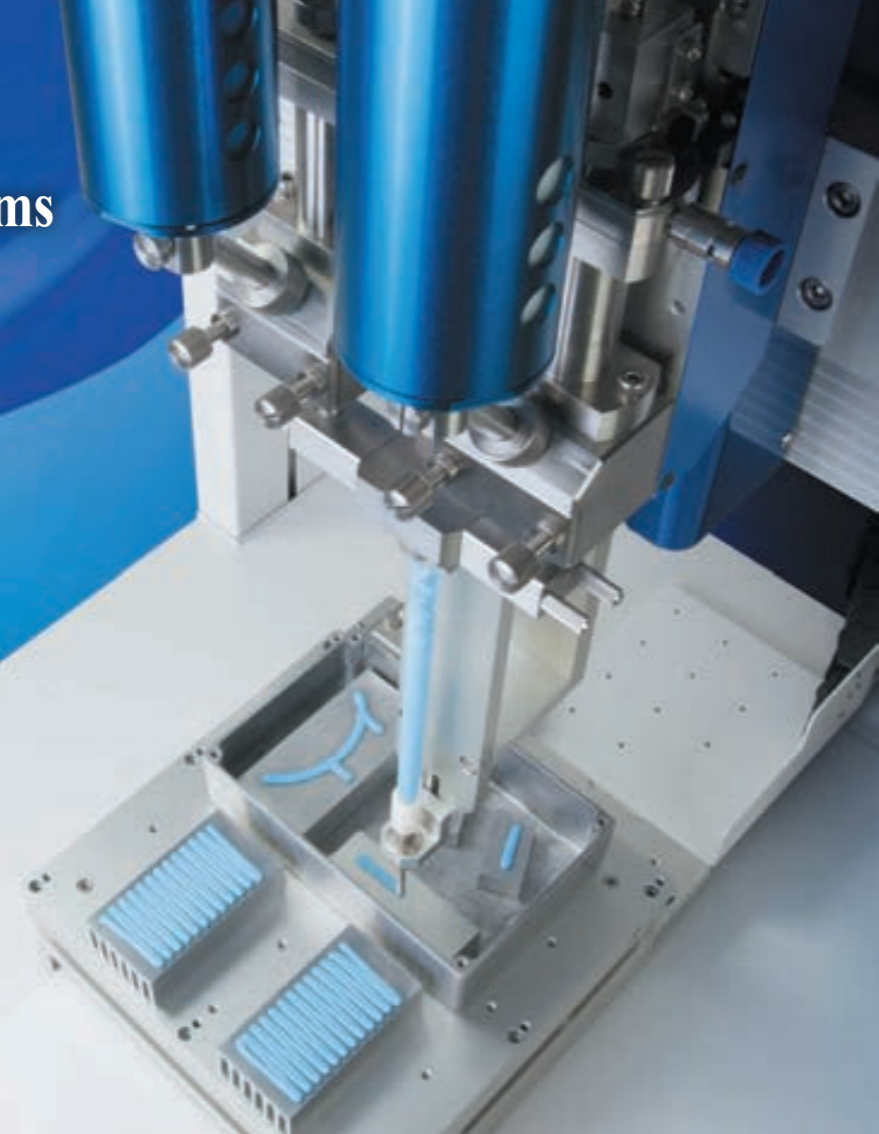
Note: For UV adhesive, use PTFE tube, black, TT-□B (black tube).

PTFE tube

Model		Tube OD (φ) mm	Tube ID (φ) mm	Tube length
PTFE tube	PTFE tube, black (for UV adhesive)			
TT-32	—	0.75	0.25	10 m
TT-30	TT-30B	0.76	0.3	10 m
TT-28	TT-28B	0.84	0.38	10 m
TT-26	TT-26B	0.92	0.46	10 m
TT-24	TT-24B	1.06	0.56	10 m
TT-22	TT-22B	1.18	0.68	10 m
TT-21	TT-21B	1.31	0.81	10 m
TT-20	TT-20B	1.46	0.86	10 m
TT-19	TT-19B	1.56	0.96	10 m
TT-18	TT-18B	1.67	1.07	10 m
TT-17	TT-17B	1.79	1.19	10 m
TT-16	TT-16B	1.95	1.35	10 m
TT-15	TT-15B	2.10	1.50	10 m
TT-14	—	2.28	1.68	10 m
TT-13	TT-13B	2.53	1.93	10 m
TT-12	TT-12B	2.76	2.16	10 m
TT-11	TT-11B	3.01	2.41	10 m
TT-10	TT-10B	3.29	2.69	10 m



Proposes two-component dedicated dispensing systems to meet the needs, types, and applications of two-component materials.

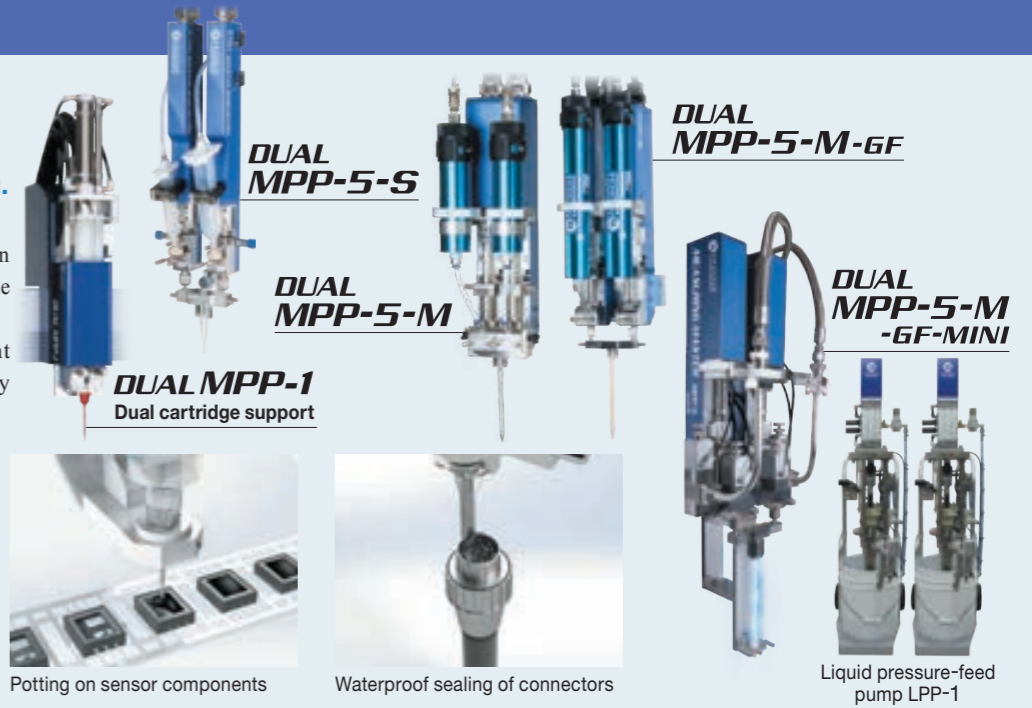


Volume measuring type digital control dispenser

DUAL MPP

Ideal for precision dispensing of two-component mixed materials and micro filling.

- Simple maintenance
- Proprietary high-durability design
- Arbitrary mixing ratios are possible by individual setting of 2 heads.
- Applicable to two-component materials with large viscosity differences.

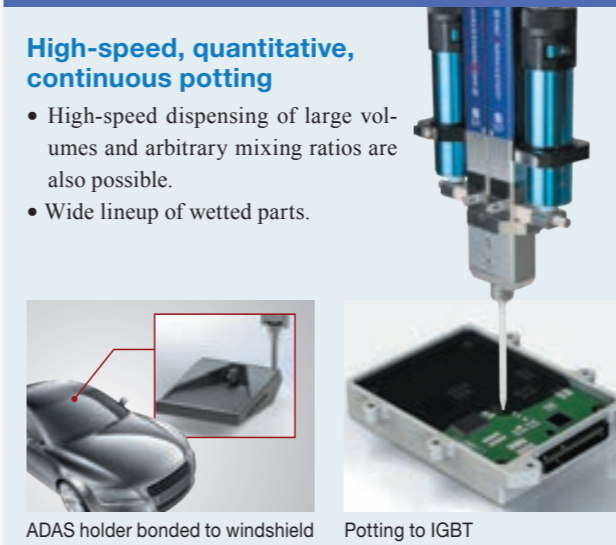


High-performance MOHNO type dispenser

DUAL MOHNO MASTER

High-speed, quantitative, continuous potting

- High-speed dispensing of large volumes and arbitrary mixing ratios are also possible.
- Wide lineup of wetted parts.



Volume Measuring type Dispenser

DYNAMIC DUAL MASTER

Ultra-high precision mixing and dispensing

- Precise dispensing of two-component materials with large mixing ratio/viscosity differences is possible.
- Set dispensing volume by volume and weight

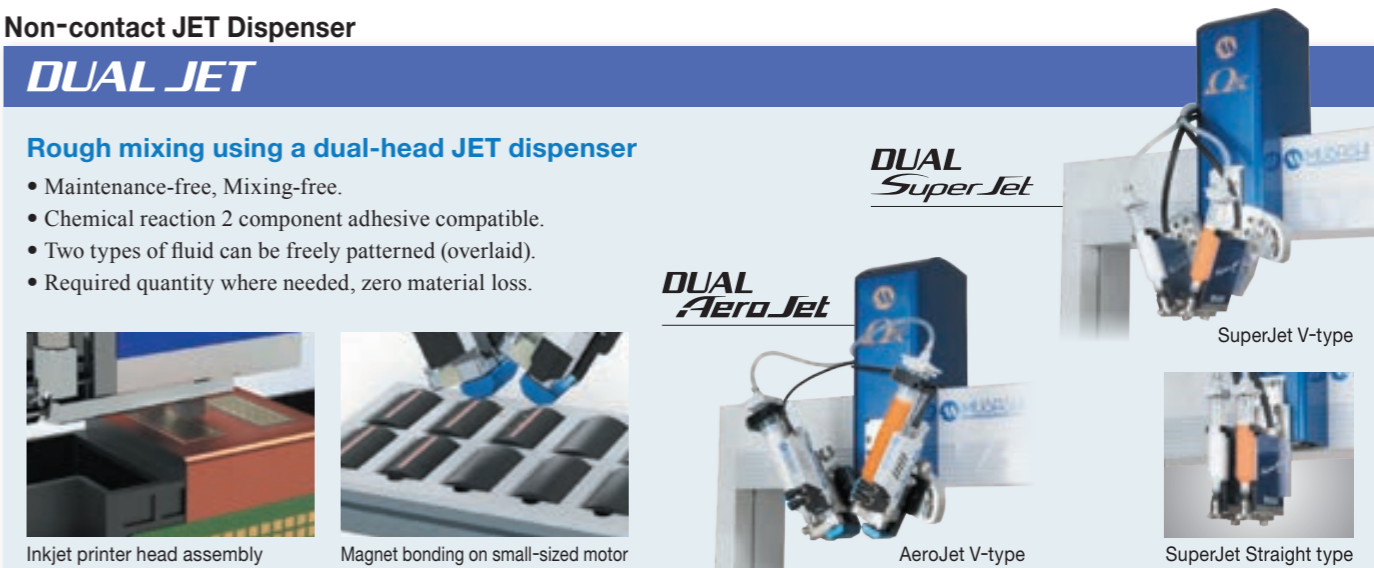


Non-contact JET Dispenser

DUAL JET

Rough mixing using a dual-head JET dispenser

- Maintenance-free, Mixing-free.
- Chemical reaction 2 component adhesive compatible.
- Two types of fluid can be freely patterned (overlaid).
- Required quantity where needed, zero material loss.



Dedicated two-component systems Lineup and quick reference table

Item name		DUAL MPP-5-S	DUAL MPP-1 Dual cartridge support	DUAL MPP-5-M	DUAL MPP-5-M-6F	DUAL MPP-5-M-6F-MINI	DUAL MOHNO MASTER	DYNAMIC DUAL MASTER	DUAL AeroJet	DUAL SuperJet
		Ultra-precision weighing	Supports four types of cartridges	Barrel and sealant cartridge compatible	Barrel and sealant cartridge compatible <small>*20oz barrels are also available.</small>	Suitable for large capacity such as pails	Barrel, tank and pail connections available	Compatible with fluids with large specific gravity/viscosity differences	Extensive parts lineup	Ultra high speed Max: 1,200 Hz
Flow rate		Minute amount	Low flow	Medium flow	Medium flow	Medium flow	V1: Medium flow V2: High flow	Low flow	Low flow	Minute amount
Mixed type		Static Mixer type						Dynamic Mixer type	Rough mixed type	
Recommended fluid	Filling	○	○	○			◎	◎		
	Adhesives	○	◎	○			○		○	○
	Radiation			◎	◎	◎				

From manual operation to automated machine mounting, a wide range of production site needs can be handled.

Air-pulse dispenser

Air-pulse type is the most popular dispenser thanks to its high versatility, economy, and maintainability. From models for manual operation with excellent cost performance to models for automated machines with high accuracy and high speed cycles that are equipped with various automatic compensation and communication functions, models are available to meet a wide range of production site needs. In each segment, MUSASHI Air-pulse dispensers continue to be No. 1.



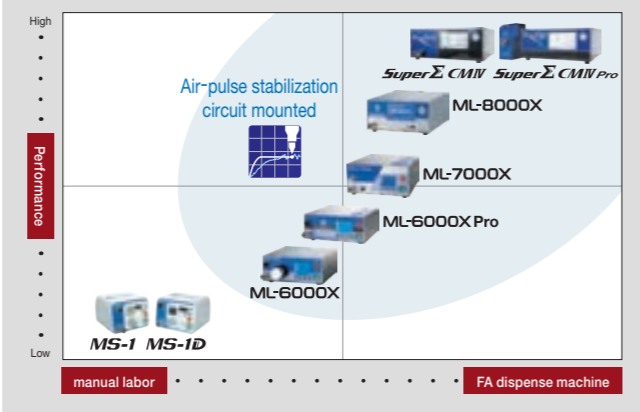
Syringe system

Standard system for small volume dispensing

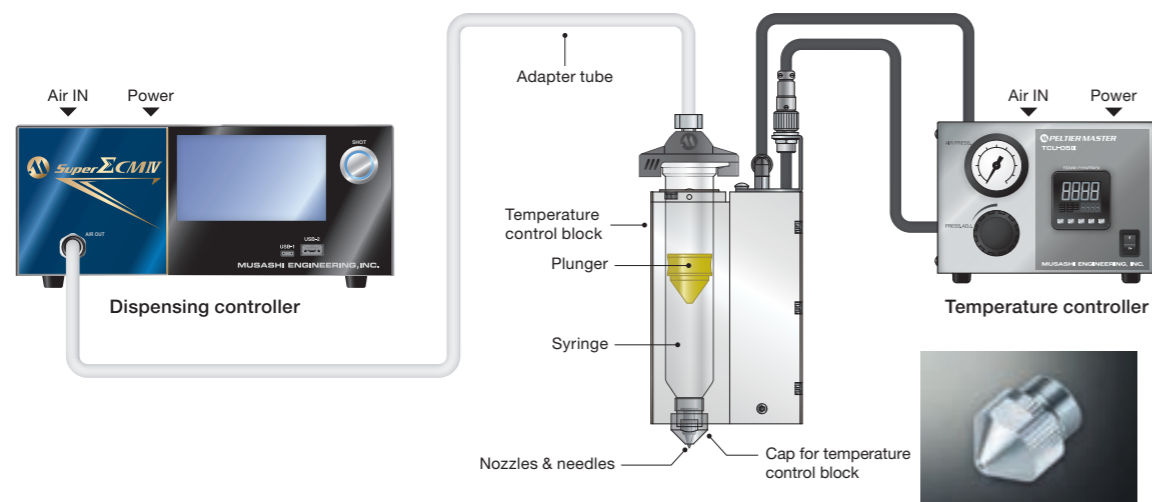
This is the most common dispenser system that can be used for various dispensing operations from manual operation to installation in an automated machine. By combining this system with disposable type syringes and needles, maintenance is much easier. There are nine syringe sizes, from 1 mL to 100 mL.



Quick Reference Table by Specifications and Applications



Air-pulse system Connection system configuration diagram

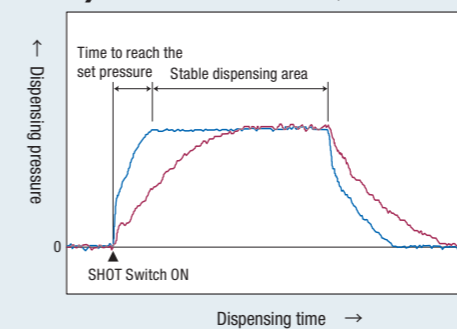


Air-pulse stabilization circuit PAT.

MUSASHI's unique, air-pulse stabilizing circuit raises the pressure faster, providing good response. Accordingly, the stable dispensing area becomes wider to eliminate fluctuations in dispensing volume.

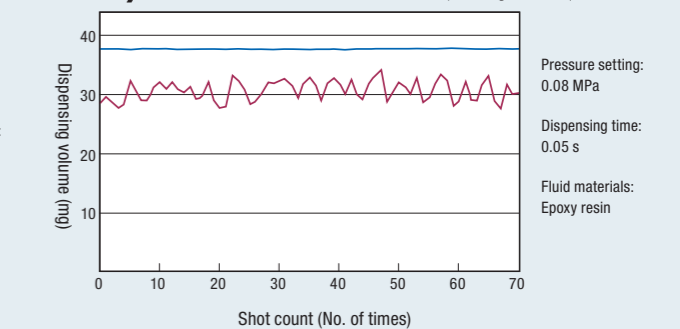
Effect of the air-pulse stabilizing circuit

— Super ΣCMV-V5 — Air-pulse without stabilization circuit



Dispensing precision comparison table

— Super ΣCMV-V5 — Other brand (with digital timer)



Example of system mounting



Into the core of automated production lines The Σ series dominates the field of ultra-precision, super-fine point dispensing.

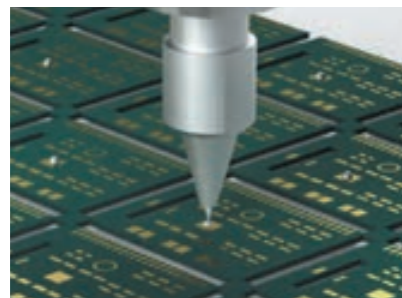


Enhanced dispensing stability, demonstration of global standards.

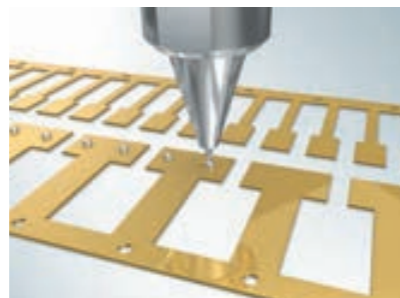
Our Σ series have been highly valued for their high-precision micro volume dispensing capability and automatized unmanned production lines accompanied with building up overwhelming accomplishments. "Three Major Σ Functions" have solved difficult problems all together such as fluid dripping, volume reduction, and remaining volume alert. These functions provide excellent performance in various production processes including semiconductor manufacturing and electronic component manufacturing, for example, ultra-precision dispensing of as little as 0.01 mg and high-speed dispensing at minimum cycle time of 0.1 s or less.

Higher-precision and higher-stability dispensing has been successfully achieved thanks to further improvement in dispensing stability and remaining volume detection accuracy. Storage capacity of as many as 100 types of operation patterns allows users to manage product variety completely without any difficulty. In addition, the dedicated software, "MuCOM for Super Σ CM series", provides editability of dispensing conditions on a PC, dramatically improving accuracy and efficiency of operations.

Applications



Ag paste dispensing in die bonding



Solder paste dispensing to lead frames



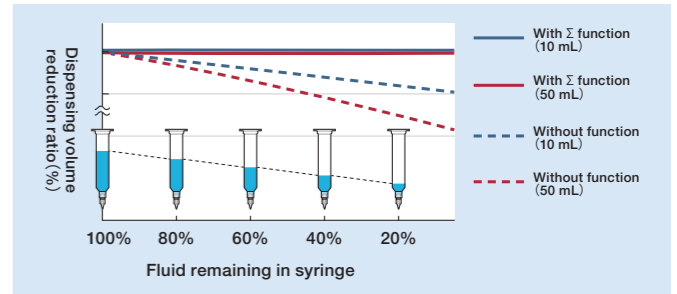
UV dispensing for fixed automotive camera lenses

" Σ 3 major functions" help to improve yield and contribute to a smarter production line

1. Automatic correction of volume reduction

Compensates for the decrease in dispensing volume due to the effect of the difference in hydraulic head. Stable, high-precision dispensing is achieved through a single syringe.

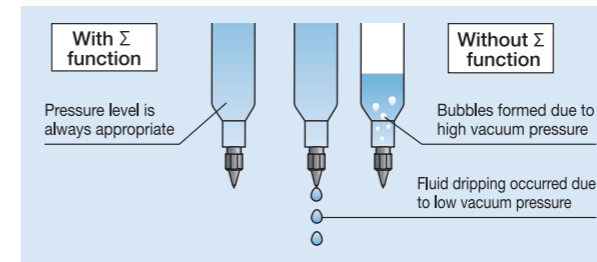
UP Improved water head difference dispensing accuracy for more accurate dispensing.



2. Automatic vacuum correction function

By automatically correcting the vacuum pressure generated during dispensing, it prevents dripping while achieving stable dispensing.

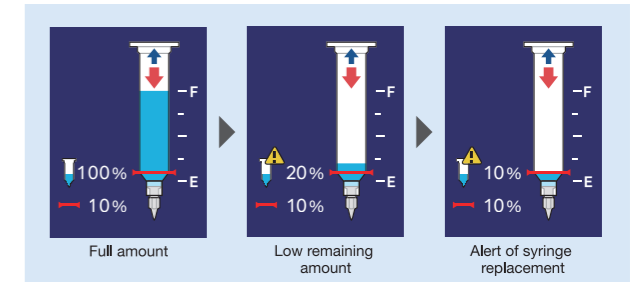
UP Vacuum pressure stability and responsiveness have improved, further reducing the impact of interval time.



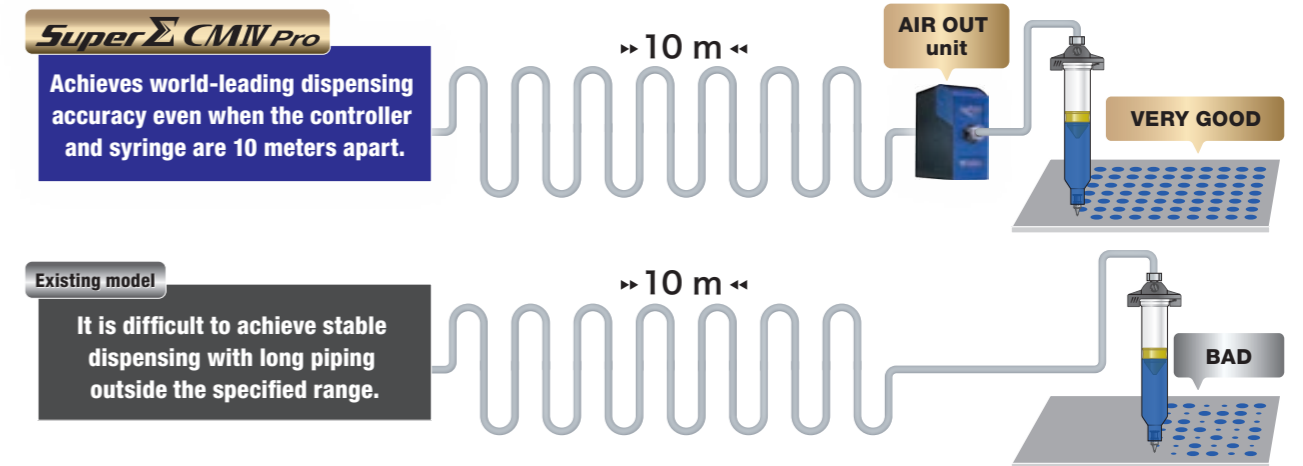
3. Automatic low fluid alarm

Highly precise detection and constant monitoring of the amount of fluid remaining in the syringe.

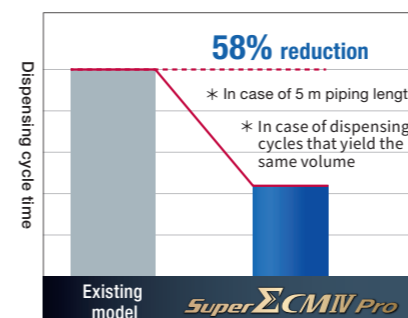
UP Improved detection accuracy just before material runs out. Now supports two-level remaining charge warnings.



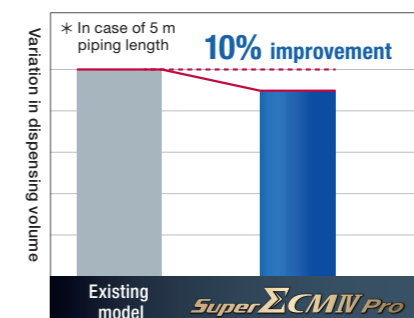
Furthermore, the independent AIR OUT unit of the "Super Sigma CMV Pro" maintains optimal dispensing responsiveness and precision even in long piping environments.



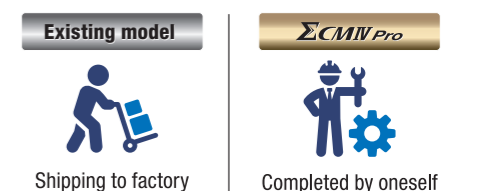
Difference in dispensing cycles



Dispensing accuracy comparison



Reducing maintenance time



Traditionally, replacing solenoid valves required approximately two weeks of factory support. Now, customers can easily perform the replacement yourself.

Fully digital controlled dispenser



Pursuing ultimate productivity.

- Built-in temperature controller.
- Independent AIR OUT unit.
- Compatible Standards: CE marking (Low Voltage Directive, EMCD), EU RoHS2.
- Air-pulse stabilization circuit (PAT) mounted [For details, see →P41](#)

The pinnacle of Air-pulse technology, reaching new frontiers.

- Contributes to smart factory implementation.
- Enhancement of production management functions. Equipped with log, self-diagnosis, and emergency stop functions.
- Supports network connectivity. Equipped with LAN port. (Ethernet-compatible)
- Improved compatibility with PCs. Equipped with USB port. (Type-C and Type-A compatible)
- Compatible Standards: CE marking (Low Voltage Directive, EMCD), EU RoHS2.
- Air-pulse stabilization circuit (PAT) mounted [For details, see →P41](#)

Controller specifications

Item name	Fully digital control dispenser Super Σ CM IV Pro						Fully digital control dispenser Super Σ CM IV				
Model	SUPER-SIGMA-CM4P						SUPER-SIGMA-CM4				
Model	-V7	-V2	-V05	-V5	-V2						
Dispensing system	Air-pulse system										
Air-pulse stabilization circuit	Equipped										
Controller Model	S-SIGMA-CM4P-CTR						S-SIGMA-CM4-CTR				
	-V7-N	-V7-P	-V2-N	-V2-P	-V05-N	-V05-P	-V5-N	-V5-P	-V2-N	-V2-P	
Display	4.3 inch touch panel color LCD (Japanese/English/Chinese)										
Dispensing pressure Adjustment range	When Σ function *1 is ON	30.0 to 700.0 kPa	20.0 to 200.0 kPa	5.0 to 50.0 kPa	30.0 to 500.0 kPa	20.0 to 200.0 kPa					
	When Σ function is OFF	20.0 to 700.0 kPa	5.0 to 200.0 kPa	0.5 to 50.0 kPa	30.0 to 500.0 kPa	5.0 to 200.0 kPa					
Dispensing time setting range	When Σ function is ON	Timed mode with Σ function ON: 0.020 to 9999.999 seconds (depending on tube length) Manual mode: 0.035 to 9999.999 seconds									
	When Σ function is OFF	0.001 to 9999.999 s									
Vacuum pressure setting range	0.00 to -5.00 kPa										
Temperature control method heating	Cooling PID system										
Temperature adjustment range *2	20.0 to 50.0°C (setting range: 0.0 to 100.0°C)										
Temperature adjustment accuracy	±0.3°C										
Signal specifications	NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP	NPN	PNP	
Source pressure range	200 to 700 kPa		200 to 400 kPa			200 to 700 kPa			200 to 400 kPa		
Supply Power source *3	Connector	Connector ACAT-4 dedicated connector, e-CON (3-pin socket) *3									
	Rated voltage	DC24 V ±10%									
Power consumption	65 W (26 W when temperature control function is not used)						26 W				
External dimensions (excluding protrusions)	W250×D250×H108 mm										
Weight	3.6 kg						4.0 kg				

AIR OUT unit specifications

Model	Vertical			horizontal		
	S-SIGMA-CM4P-AOU					
	-V7-1	-V2-1	-V05-1	-V7-2	-V2-2	-V05-2
External dimensions (excluding protrusions)	W50.8×D132×H126 mm			W56.1×D165×H126 mm		
Weight	0.9 kg			1.2 kg		

- *1 The Σ function refers to automatic water head difference correction, automatic drip prevention, and automatic remaining liquid warning.
- *2 At an ambient temperature of 25 °C. However, when the dispensing cycle is short, the specified temperature control capability may not be achieved. Please contact our sales department.
- *3 AC adapter is an optional accessory. Please use one of the following methods for power supply.
 • Use our ACAT-4 (input rating AC100 to 240 V 50/60 Hz).
 • Use SELV power supplies that comply with the harmonized standards for the LVD under the CE marking.
 (Compatible plug: e-CON 3-pin)
 Please use USB cables and power cables that are 3 meters or shorter.
 (This product's CE Declaration of Conformity does not cover lengths exceeding 3 meters).

User-friendly

Equipped with a 4.3 inch touch panel



An excellent user interface allows for intuitive comprehension of more information. Easier setup with a touch of the screen.

Smaller size Energy saving

Eco mode

Reduces air consumption during operation. Reduces standby air consumption by 90% or more. (when vacuum is off)



Sleep mode

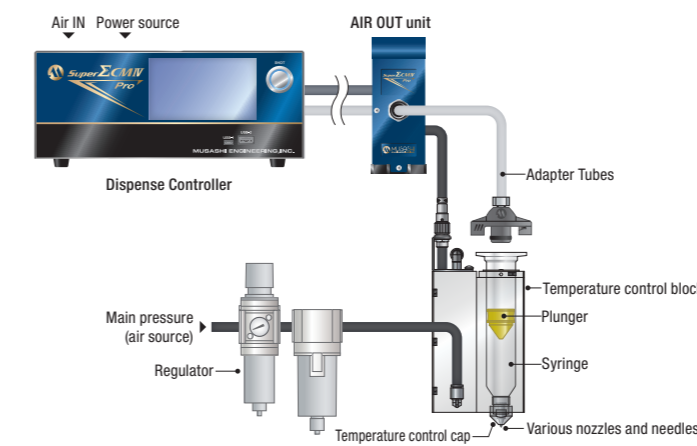
Reduces power consumption and air consumption during machine idling. Reduces standby power consumption by up to 25%. (Screen fades to black, no SHOT possible)

Compact design

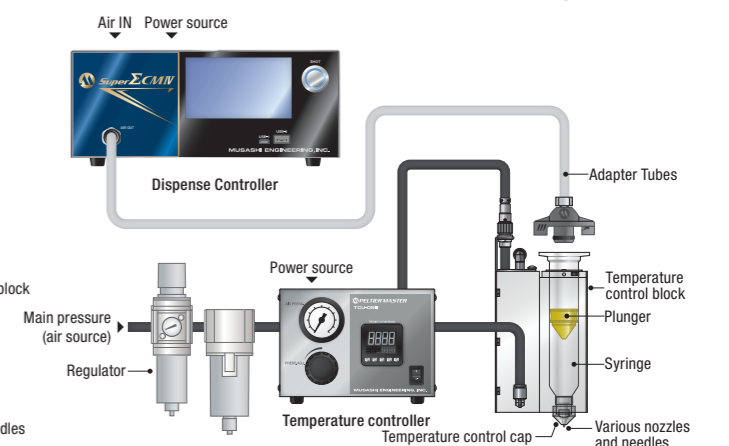
Reduced housing volume by 30%. (Compared to our existing model)

Temperature control connection system configuration diagram

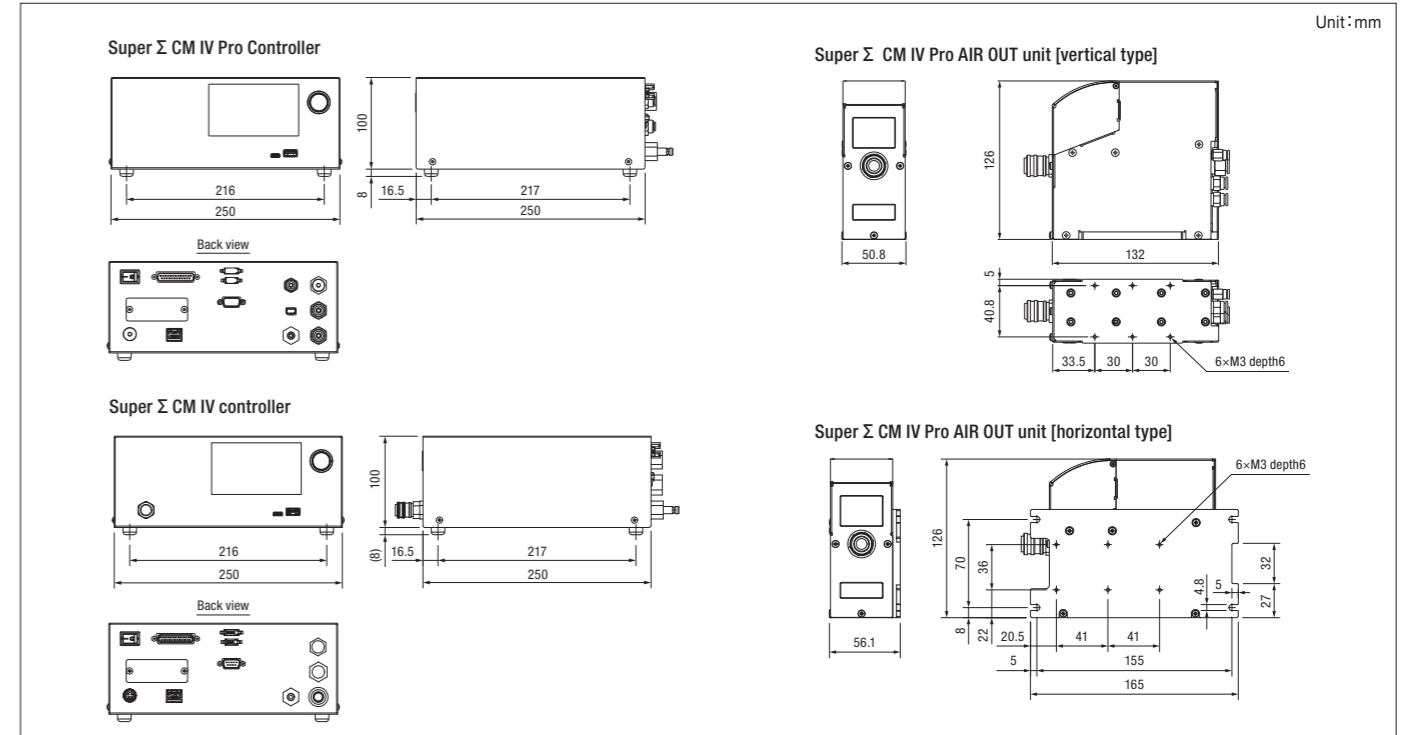
Super Sigma CMV Pro Equipped with temperature controller



Super Sigma CMV Centralized management in coordination with temperature control



External dimensions



Automatic control of the vacuum is adopted to achieve full-function digital control. Enhanced logging and self-diagnostic functions for FA mounting.



Industry 4.0 "complete support", dispensing platformer is born.

In recent years, there has been a growing need for digital management of production sites in order to achieve "Smart Factories". The newly developed full-function digital control dispenser **ML-8000X** is complete support with Industry 4.0. Enhanced production management functions with logging and self-diagnostic functions. In addition, 4.3 inch color touch panel enables smartphone-like operation. As a platform for dispensing condition management, it contributes to improving the performance of automated production lines.

Applications



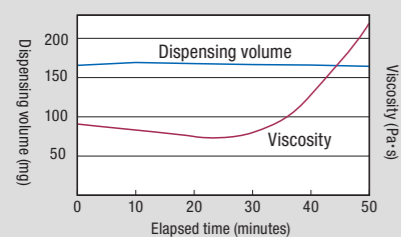
Speaker Vibration Membrane Attachment



Dispensing Ag Paste on optical communication module

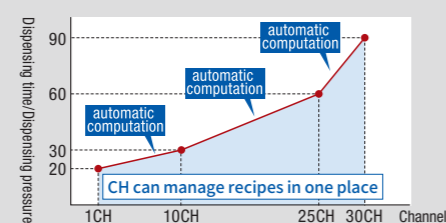
Automatic pressure switching to adapt to viscosity changes

Auto increment function to correct dispensing volume (Automatic channel switching)



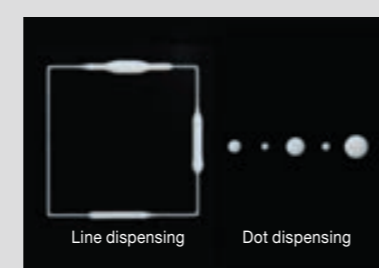
Fluid: two-component epoxy adhesive

Automatic calculation of dispensing conditions by auto-slope function



Automatically calculates and sets the dispensing pressure and dispensing time for an arbitrarily specified channel section.

Variable dispensing volume at a constant dispensing rate by express shot function



Industry 4.0 complete support Fully digital controlled dispenser



Next-generation dispenser suitable for installation in automated machines

- **Industry 4.0 "complete" support**
Instantly displays errors, logs, and the number of productions. Minimize defects by working with higher levels.
- **Recipes and channels can be imported/exported via USB port.**
Easy backup to PCs and other devices.
- **Compatible Standards:** CE marking (Low Voltage Directive, EMC), EU RoHS2.
- **Standard lineup includes PNP specifications** for I/O input/output signals.
- **Air-pulse stabilization circuit (PAT) mounted** [For details, see P41]



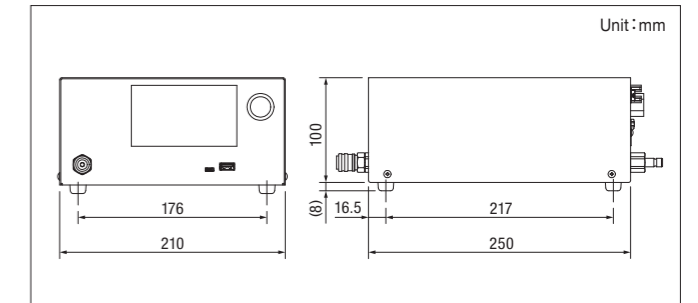
Example on equipments

Specifications

Item name	Supports upper-level communication Fully digital controlled dispenser			
Model	ML-8000X-CTR			
	-V7-N	-V7-P	-V2-N	-V2-P
Dispensing system	Air-pulse system			
Air-pulse stabilization circuit	Mounted			
Dispensing pressure setting range	20.0 to 700.0 kPa		5.0 to 200.0 kPa	
Dispensing time setting range	0.010 to 9,999.999 s			
Vacuum pressure setting range	0.00 to -5.00 kPa			
Source pressure range	200 to 800 kPa		200 to 400 kPa	
Signal Specifications	NPN	PNP	NPN	PNP
	Connector: ACAT-3 dedicated connector, e-CON (3-pin socket) *2			
Supply power *1	Rated voltage: DC 24V ±10%			
	Power consumption: 26 W			
External dimensions	W210×D250×H108 mm (excluding protrusions)			
Weight	3.4 kg			

*1 Please use a USB cable and power cable of 3 m or less. (In excess of 3 m, the product is outside the scope of the CE declaration of conformity for this product.)
*2 AC adapter is an optional accessory. Please use one of the following methods for power supply.
■ Use our ACAT-3 (input rating AC100 to 240 V 50 / 60 Hz).
■ Use a SELV power supply that meets the CE marking LVD matching standard. (Compatible plug: e-CON 3-pin)

External dimensions



Features of ML-8000X

Improved functions

Vacuum pressure setting

Refined operability

Equipped with a 4.3 inch touch panel

Production control

Equipped with log, self-diagnosis, emergency stop

PC communication

Equipped with USB ports



Two types of main screens are available: "Parameter Operation" and "Visual Operation".

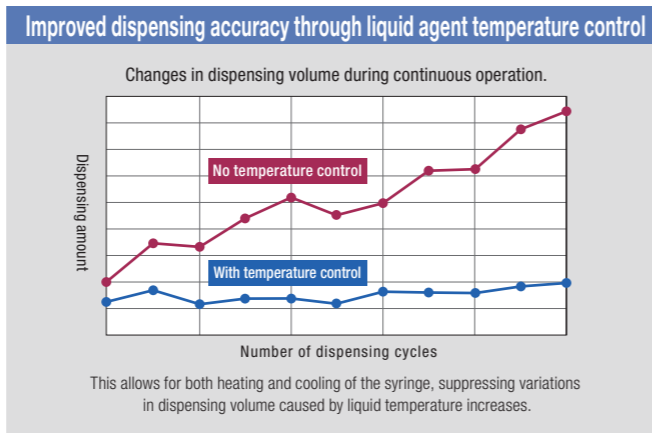
Easy operation and setting by "screen touch" even with a pen or gloves.

Integrated liquid temperature control with 0.1 °C precision and automatic dispensing pressure control.

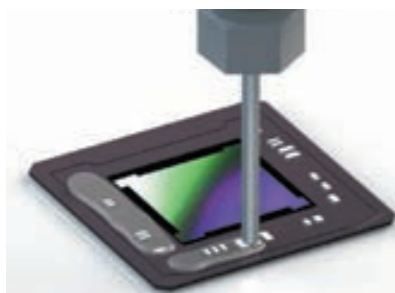


Next-generation automatic machine standard model!

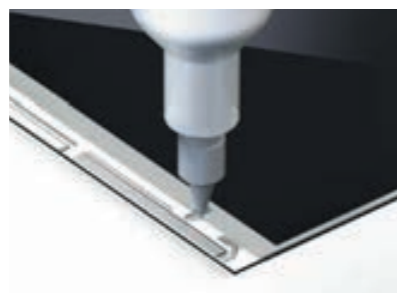
ML-7000X builds upon the high fundamental performance of the entry-level ML-6000X, adding liquid temperature control in 0.1°C increments to achieve space savings and improved dispensing accuracy. 2.4 inch color LCD display allows control of dispensing conditions and liquid temperature. Featuring a simple logging function compliant with Industry 4.0, it meets the needs of more advanced production environments. As a next-generation standard model offering excellent cost performance, it contributes to the realization of the smart factory.



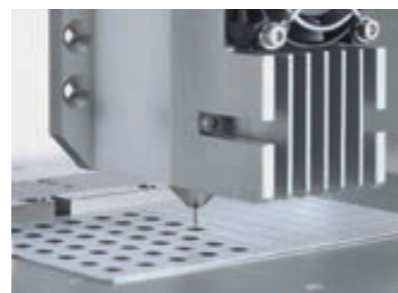
Applications



Dust trapping agent dispensing on camera modules



Conductive Ag paste dispensing on touch panels



Potting dispense onto ceramic substrates

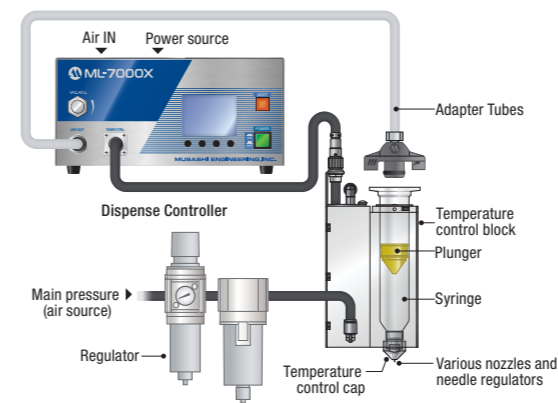
built-in temperature controller
High-precision digital dispenser



Air-pulse dispenser with built-in temperature-controlled CTR

- Equipped with a wide range of features (channel switching, basic log function, low-level warning, pressure anomaly detection, etc.)
- Compatible Standards: CE marking (Low Voltage Directive, EMC), EU RoHS2.
- Air-pulse stabilization circuit (PAT) mounted [For details, see →P41]

Temperature control connection system configuration diagram

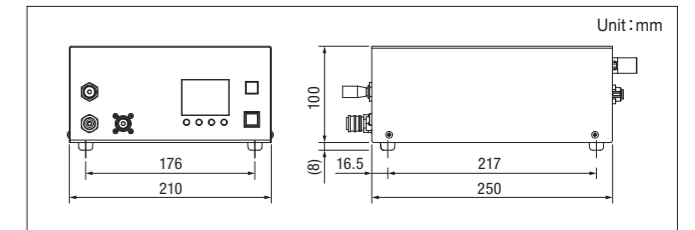


Specifications

Item name	High-precision digital dispenser			
Model	ML-7000X-CTR			
	-V5-N	-V5-P	-V2-N	-V2-P
Dispensing system	Air-pulse system			
Air-pulse stabilization circuit	Mounted			
Dispensing pressure regulating range	30 to 500 kPa		5 to 200 kPa	
	0.001 to 99.999 sec, 0.01 to 999.99 sec, 0.1 to 9999.9 sec (Digit switching available using the icon key)			
Dispensing time setting range	0.0 to -20.0 kPa		0.0 to -10.0 kPa	
	Discharge pressure +100 kPa or more and up to 800 kPa Discharge pressure +100 kPa or more and up to 400 kPa			
Power supply *1	Connector	Connector ACAT-4 dedicated connector, e-CON (3-pin socket) *2		
	Rated voltage	DC 24 V ±10%		
	Power consumption	65 W (26 W when temperature control function is not used)		
External dimensions	W210×D250×H108 mm (excluding protrusions)			
Weight	3.1 kg			

*1 Please use a power cable no longer than 3 meters (This product's CE Declaration of Conformity does not cover lengths exceeding 3 meters).
*2 AC adapter is an optional accessory. Please use one of the following methods for power supply.
■ Use our ACAT-4 (input rated AC100-240 V 50/60 Hz).
■ Use a SELV power supply that meets LVD matching standards for CE marking. (Compatible plug: e-CON 3-pin)

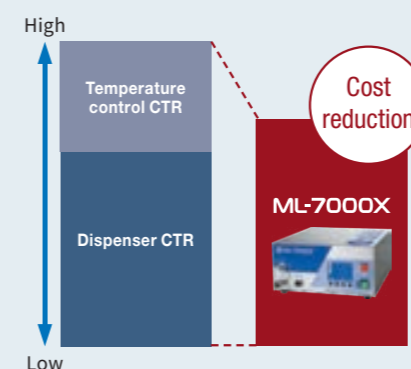
External dimensions



Advantages of built-in temperature controller

Cost reduction

Get it all in one package for great value.



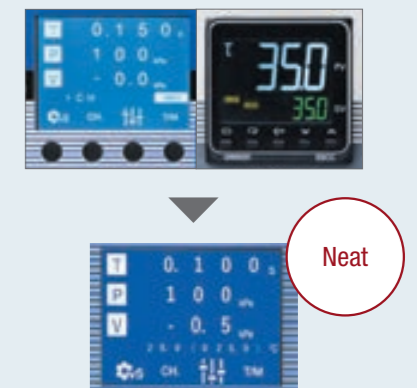
Space-saving

Space for two units consolidated into one.



Easy setup

Both dispensing and temperature control settings can be confirmed on a single screen.



The long-selling ML-5000II has been redesigned with a simplified logging function. High-grade models also realize automatic control of dispensing pressure.



Industry 4.0 entry model, new!

The ML-5000II high-precision digital dispenser is a long-seller with an overwhelming share of the global market.

「ML-6000X / ML-6000X Pro」 is an entry-level model compatible with Industry 4.0, developed and commercialized as its successor. The dispensing performance that surpasses the ML-5000II, a new simple logging function, and a 2.4 inch color LCD display with greatly improved visibility contribute to the realization of a "Smart Factory".

Applications



UV dispensing on camera modules

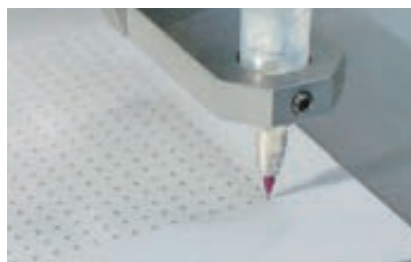


Pressure Sensor Potting

Features of next-generation dispenser

Excellent dispensing

Air-pulse stabilization circuit (PAT) as standard. Eliminates dispensing volume variation and achieves excellent dispensing accuracy. [For details, see P41]



Next-generation Functions

Simple logging function (recording parameters: various pressures, dispensing time, channels, dispensing mode)

Other Enhanced Features Simple residual volume detection / Interval function channel registration / Channel switching error output / Alarm output



User-friendly

The 2.4 inch color graphic LCD display is easy to set up and operate. Multilingual (Japanese, English, Chinese) support.



High-precision digital dispenser

ML-6000X / ML-6000X Pro



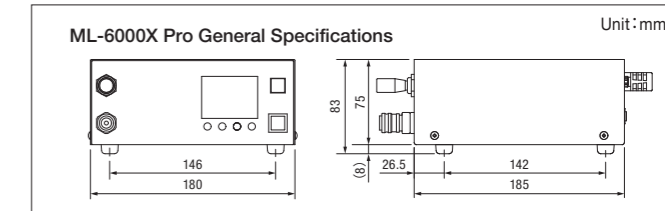
New generation digital dispenser

- Compatible with Industry 4.0 and outputs various kinds of abnormal errors.
- Channel registration is possible for a variety of products.
- General-purpose and vacuum high-resolution specifications lined up.
- Compatible Standards: CE marking (Low Voltage Directive, EMC), EU RoHS2.
- Air-pulse stabilization circuit (PAT) mounted [For details, see P41]

ML-6000X Pro Features

- Enables pressure setting from the device side.
- Two types of dispensing pressure are selectable.

External dimensions



Specifications

Item name	High-precision digital dispenser											
	ML-6000X				ML-6000X Pro							
Model	ML-6000X-CTR				ML-6000XP-CTR							
	-N-VHR	-P-VHR	-N-GP	-P-GP	-V5-N-VHR	-V5-P-VHR	-V2-N-VHR	-V2-P-VHR	-V5-N-GP	-V5-P-GP	-V2-N-GP	-V2-P-GP
Dispensing system	Air-pulse system											
Air-pulse stabilization circuit	Mounted											
Dispensing pressure regulating range	5.0 to 700.0 kPa				30.0 to 500.0 kPa		5.0 to 200.0 kPa		30.0 to 500.0 kPa		5.0 to 200.0 kPa	
Dispensing time setting range	0.001 to 99.999 sec, 0.01 to 999.99 sec, 0.1 to 9,999.9 sec (digits can be switched by icon switch)											
Vacuum pressure setting range	0 to -20.0 kPa (with air supply of 600 kPa)				0 to -20.0 kPa (with air supply of 600 kPa)		0 to -10.0 kPa (with air supply of 400 kPa)		0 to -20.0 kPa (with air supply of 600 kPa)		0 to -10.0 kPa (with air supply of 400 kPa)	
Vacuum pressure setting range	Precision needle valve (Approx. -1 kPa per a turn)		Standard needle valve (Approx. -4 kPa per a turn)		Precision needle valve (Approx. -1 kPa per a turn)				Standard needle valve (Approx. -4 kPa per a turn)			
Source pressure range	Max. 800 kPa (Dispensing pressure + 100 kPa or more)				Max. 800 kPa (Dispensing pressure + 100 kPa or more)		Max. 400 kPa (Dispensing pressure + 100 kPa or more)		Max. 800 kPa (Dispensing pressure + 100 kPa or more)		Max. 400 kPa (Dispensing pressure + 100 kPa or more)	
Rated voltage and frequency	When supplying from DC24 V DSUB 25 pin, When supplying from a DC12 V DC jack *1 *2											
Power consumption	12 W											
External dimensions	W180×D185×H83 mm (excluding protrusions)											
Weight	2.2 kg		2.1 kg		2.2 kg				2.0 kg			

*1 The AC adapter is not included in the product.

*2 When supplying from a DC plug, Use one of the following methods to supply power.

- Use our ACAT-2 (input rating AC100-240 V 50 / 60 Hz).
- Use an AC adapter that conforms to EN-62368-1:2014. (Compatible plug φ5.5 × 2.1 L = 9.5, Center Plus)
- Use a SELV power supply that meets the CE marking LVD matching standard.

Highly functional ECO Dispenser

SMART SHOT MS-1 / MS-1D



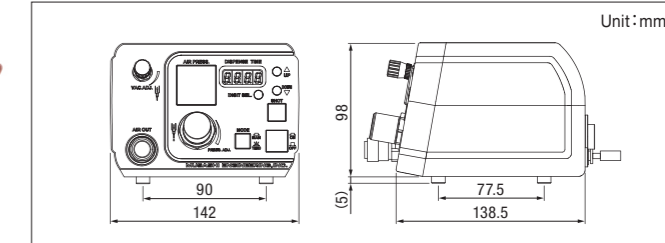
Outstanding cost-effective performance.

- Power consumption 1/2 — Cut power consumption by 50%.
- Significant accuracy improvement — Dispense accuracy is improved to 130% compared to conventional model.
- Multifunctional machine — Equipped with set up function for dispense condition.
- Ultra-light weight and compact design.
- Compatible Standards: CE marking (Low Voltage Directive, EMC), EU RoHS2.

Specifications

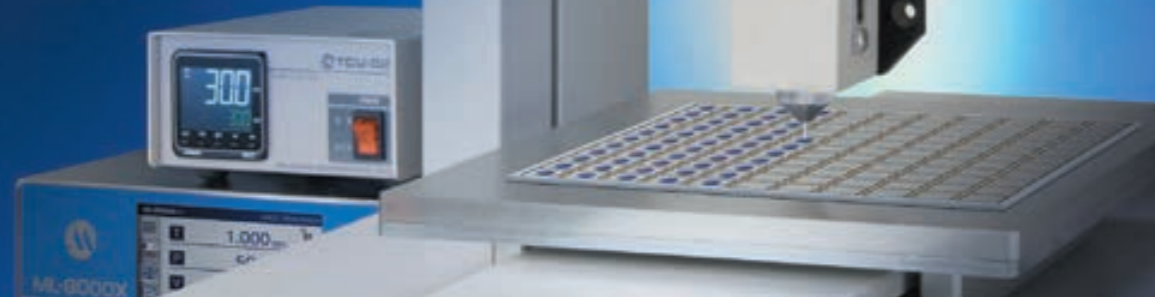
Item name	Highly functional ECO Dispenser SMART SHOT	
Model	MS-1-CTR	MS-1D-CTR
Air-pulse stabilization circuit	None	
Dispensing pressure setting range	20 to 700 kPa	
Dispensing time setting range	0.010 to 9.999 s	
Vacuum pressure setting range	0 to -20 kPa (Source pressure 600 kPa)	
Source pressure range	Max. 800 kPa (Dispensing pressure + 100 kPa or more)	
Rated voltage and frequency	AC100 to 240 V 50/60 Hz (dedicated AC adapter included)	
Power consumption	12 W	
External dimensions	W142×D138.5×H103 mm (excluding protrusions)	
Weight	790 g	

External dimensions



Key unit to improve dispensing performance. Temperature control unit

Dispensing performance (accuracy, tact, etc.) of Air-pulse dispensers is affected by the viscosity change and viscosity of fluid. Optimal fluid temperature control is achieved by using a temperature control unit that is suited to the purpose, operating environment, and fluid packaging. It is possible to improve the dispensing performance.



High-precision, Peltier, temperature control

Heating and cooling the fluid keeps the fluid viscosity constant to perform high-precision, stable dispensing.

This system keeps the temperatures of fluid materials constant to ensure stable dispensing of high-viscosity fluid materials of which the viscosity is changed due to ambient temperature.



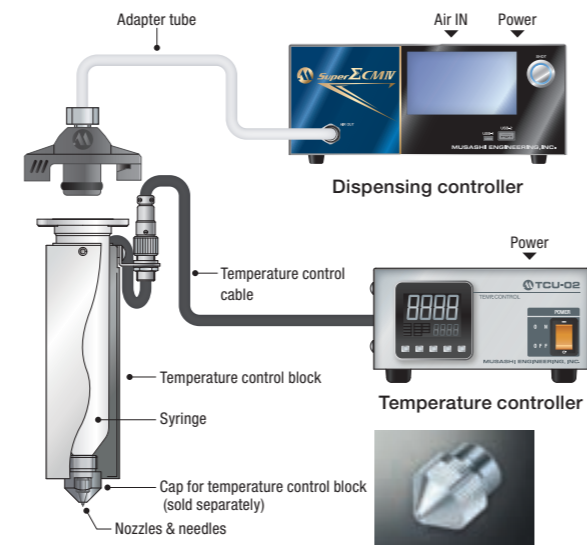
Resistance thermometer bulb temperature control

Stable dispensing at relatively higher temperatures

This is a syringe heating temperature control system suitable for dispensing materials at relatively high temperatures. It is suitable for dispensing materials such as epoxy.



Air-pulse system Connection system configuration diagram



Resistance temperature detector control system

THERMO MASTER



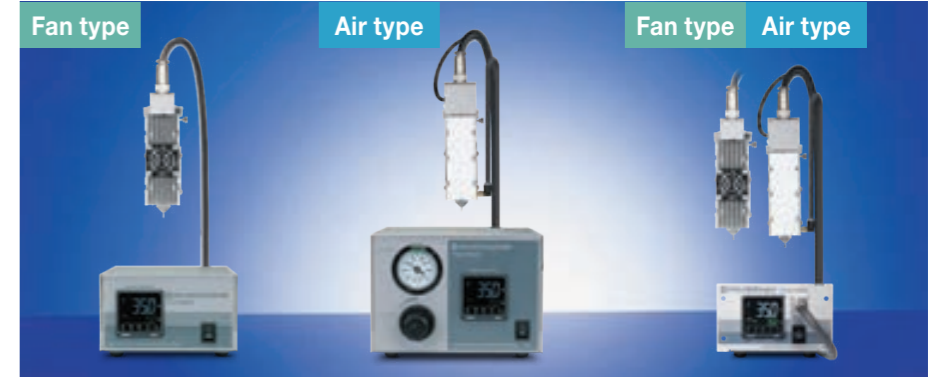
Improved temperature precision and stability, lightweight and compact heating and temperature control system.

TCU-02 / TBT

Resistance temperature detector control system

PELTIER MASTER

PELTIER mini



Heating and cooling to control temperature and viscosity of fluid material and eliminate fluctuations in dispensing volume. CE-marking certified, EU RoHS2 compliant.

TCU-05FIII / TBP

TCU-05III / TBP

TCU-05MINI / TBP

- Simple connections, no air required.
- Ideal for clean rooms.
- Dispenser-linked control.

Specifications

Item name	TCU-02 / TBT		TCU-05FIII / TBP		TCU-05III / TBP		TCU-05MINI / TBP		
	Model	Weight	Model	Weight	Model	Weight	Model	Weight	
Temperature control block	5 mL	TBT-SY05MW-K-1-Z3	155 g	TBP-SY05MW-F-1	230 g	TBP-SY05MW-A-[L/R]-1	310 g	TBP-SY05MW-F-1 TBP-SY05MW-A-[L/R]-1	230 g 310 g
	10 mL	TBT-SY10MW-K-1-Z3	210 g	TBP-SY10MW-F-1	280 g	TBP-SY10MW-A-[L/R]-1	370 g	TBP-SY10MW-F-1 TBP-SY10MW-A-[L/R]-1	280 g 370 g
	20 mL	TBT-SY20M-K-1-Z3	260 g	TBP-SY20M-F-2	400 g	TBP-SY20M-A-[L/R]-2	530 g	TBP-SY20M-F-2 TBP-SY20M-A-[L/R]-2	400 g 530 g
	30 mL	TBT-SY30M-K-1-Z3	300 g	TBP-SY30M-F-2	500 g	TBP-SY30M-A-[L/R]-2	650 g	TBP-SY30M-F-2 TBP-SY30M-A-[L/R]-2	500 g 650 g
	50 mL	TBT-SY5055MW-K-1-Z3	360 g	TBP-SY5055MW-F-1	600 g	TBP-SY5055MW-A-[L/R]-1	770 g	TBP-SY5055MW-F-1 TBP-SY5055MW-A-[L/R]-1	600 g 770 g
Temperature controller	TCU-02-MU	1.04 kg	TCU-05F-3-MU	1.8 kg	TCU-05A-3-MU	2.7 kg	TCU-05MINI-1-MU TCU-05MINI-1-COM-MU	1.0 kg	

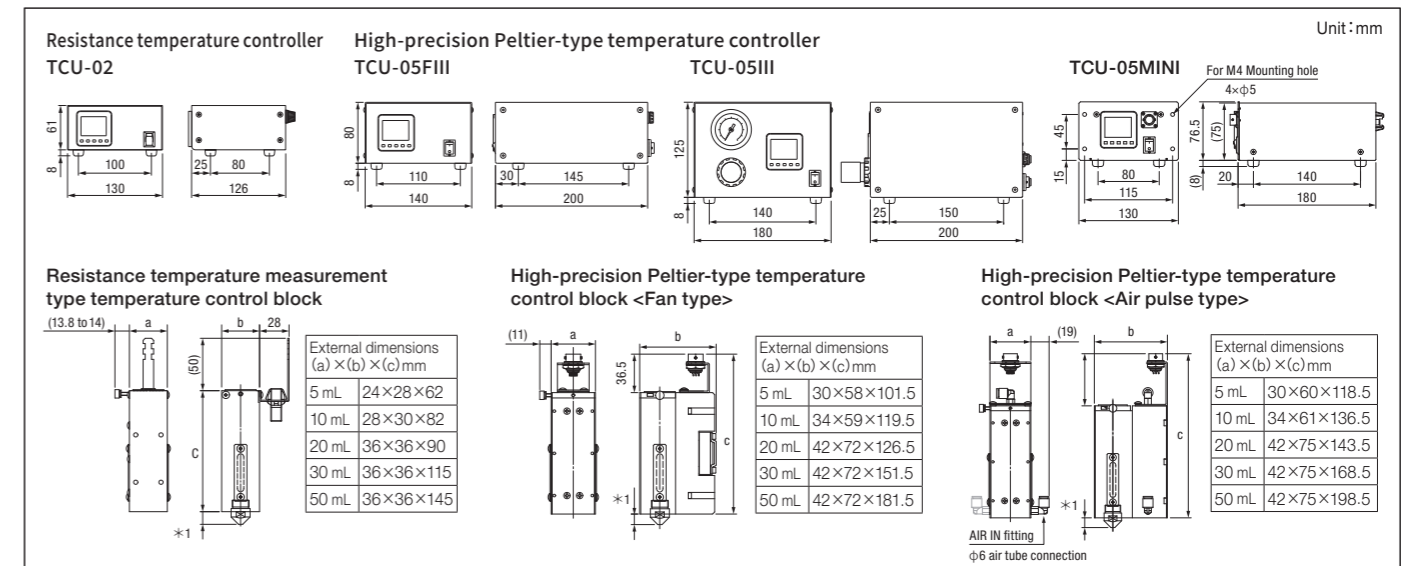
Head controller Specification

Item name	TCU-02 / TBT	TCU-05FIII / TBP	TCU-05III / TBP	TCU-05MINI / TBP
The setting range of temperature	25°C to 100°C (At an ambient temperature of 25°C)*1	20°C to 50°C (At an ambient temperature of 25°C)	15°C to 50°C (At an ambient temperature of 20 to 25°C)	20°C to 50°C (At an ambient temperature of 25°C)
Temperature precision	±0.5°C	±0.3°C	±0.4°C	±0.3°C
Heat dissipating system	—	Fan air	Air blow	Fan air / Air blow
Air supply pressure	—	—	Max.0.2 MPa	— / Max.0.2 MPa
Supported syringe	Our 5, 10, 20, 30, and 50 mL syringes			
Rated voltage and frequency	AC100 V 50/60 Hz	AC100 V-240 V 50/60 Hz		DC24 V ±10% *2
Power consumption (Controller)	9 W	55 W	60 W	40 W

Note: 1. <Air-pulse> Block The AIR IN fitting for Air-pulse blocks can be attached to either the left or right side of the block. (L/R) Please specify either L (left specification) or R (right specification).
2. <Air-pulse> Block When using the air-type block, the following regulator set is required separately. Regulator set with mist separator [Type A] (F/R-MS-SETA)
3. Caps for temperature control blocks are sold separately.

*1 The upper limit of operating temperature for clear syringes is 60 °C.
*2 AC adapter is not included in the product. Please use one of the following methods for power supply.
- Use our ACAT-4 (input rating AC 100 to 240 V 50/60 Hz).
- Use SELV power supplies that meet the harmonized standards for LVD under the CE marking. (Compliant plug: e-CON 3-pin)

External dimensions

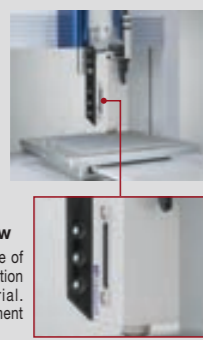


*1 The protrusion of the temperature control block cap varies depending on the type of temperature control cap.

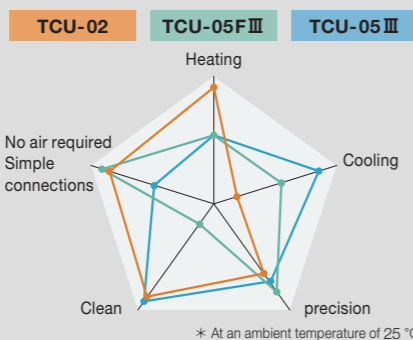
Temperature control system

Sophisticated temperature control
Set and control temperature in 0.1°C units. Accurate temperature control is essential for high-precision dispensing.

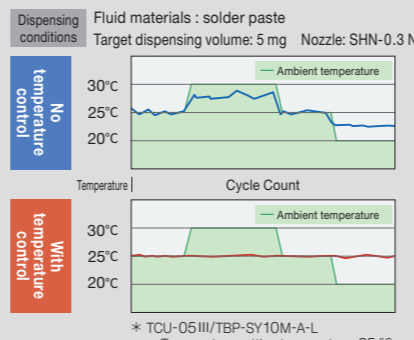
NEW
Syringe remaining volume indicator window
The viewing window on the side of the head allows visual confirmation of the remaining fluid material. Convenient for syringe replacement schedules and management.



Comparison of temperature control ability



Effectiveness of temperature control system



A reliable dispensing supporter that assists at various dispensing sites.

Dispenser peripherals

To ensure that the dispensing process is always carried out under ideal conditions, MUSASHI offers a diverse lineup of peripheral equipment to suit various production sites, fluids used, and dispensing specifications. The system provides detailed support for syringe filling, defoaming, and agitator of fluids, thereby improving the efficiency and quality of the dispensing process.



Stirring system

MIX MASTER



Note: The CyberJet2 is not included in this product.

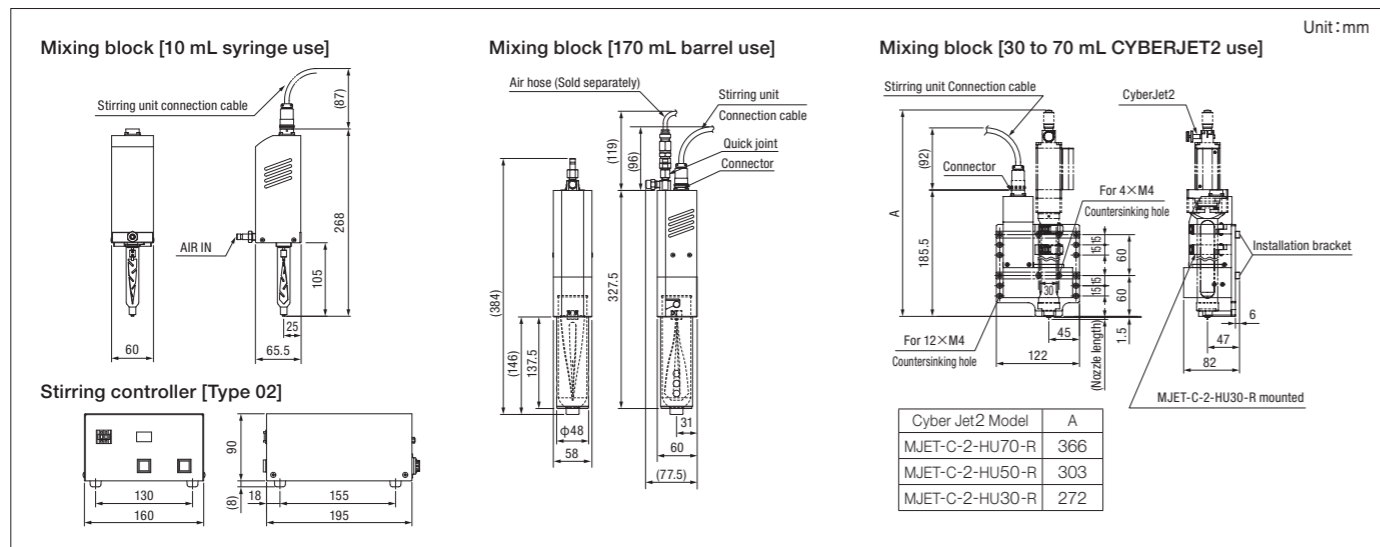
Stirs fluid materials containing fillers to prevent filler sedimentation.

- Best suited for dispensing fluid that contains filler using a syringe/cartridge system.

Item name	Model	Weight
[5 mL syringe use]	MB-5E-02	880 g
[10 mL syringe use]	MB-10E-02	880 g
[20 mL syringe use]	MB-20E-02	850 g
[30 mL syringe use]	MB-30E-02	860 g
[50 mL syringe use]	MB-50E-02	860 g
[70 mL syringe use]	MB-70E-02	870 g
[100 mL barrel use]	MB-100C-01	1.2 kg
[170 mL barrel use]	MB-170C-01	1.3 kg
[340 mL barrel use]	MB-340C-01	1.4 kg
[30 to 70 mL CYBERJET2 use]	MB-MJETC2-3070	1.4 kg
Stirring controller MIX MASTER	RMU-02	1.8 kg

Note: The weight excludes cables, syringe, and fluid material.

External dimensions



Simplified Syringe Filler

FILLING MATE



Quickly and easily fills syringes with small volumes from fluid material containers, without any bubbles.

Filling options

- Quantitative filling with automatic stop function. (Syringe full detection unit + Dedicated controller)
- Dedicated pistons can be custom ordered.
- Fluid material scatter-proof safety lid
- Remaining level detection unit

Automatic weighing type syringe filling system

AUTO FILLING MASTER



Fill syringes automatically with highly viscous fluid at high-precision

- Fill syringes quickly and precisely with high viscosity fluid, including paste.
- You can fill syringes to the required volume precisely, just by pressing the start switch since this system weighs the fluid.
- Supports different sizes of syringes.

Note: Please contact our sales department in advance. This system needs to be customized for each kind of fluid.

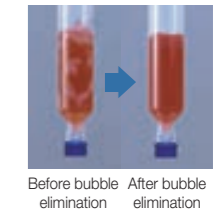
Syringe centrifugal degasser

AWATRON 3



Further user friendly, reliable, and speedy bubble elimination!

- Bubbles are eliminated just by placing a syringe and pressing the switch.
- Adoption of a syringe detachable mechanism with stationary holder allows for simple operation and elimination of installation failure.
- Adoption of a digital timer allows for detailed setting and control of bubble elimination time.
- Safety circuits mounted.



Model	AW-20-3	AW-20-3-220V	AW-50-3	AW-50-3-220V
Timer range	1 to 600 s			
Supported syringe mL	01 mL syringe: equipped with 4 syringes			
	03 mL syringe: equipped with 4 syringes			
	05 mL syringe: equipped with 4 syringes			
	10 mL syringe: equipped with 4 syringes			
	20 mL syringe: equipped with 4 syringes			
	—		30 mL syringe: equipped with 4 syringes	
	—		50 mL syringe: equipped with 4 syringes	
Power	AC100 V 50/60 Hz	AC220 V or AC230 V 50/60 Hz	AC100 V 50/60 Hz	AC220 V or AC230 V 50/60 Hz
Power consumption	165 W		400 W	
External dimensions	W320 × D394 × H210 mm		W431 × D509 × H250 mm	
Weight	15 kg		24 kg	

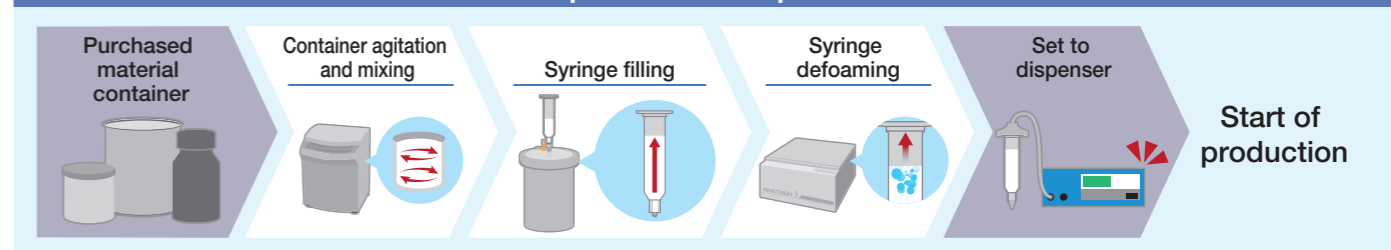
Transformer (option)

- If AW-20-3 or AW-50-3 is used with the voltage of other than AC100 V, use one of the following transformers.

Item name	Model
[AC110V ⇒ 100V]	TR-110
[AC117V ⇒ 100V]	TR-117
[AC200V ⇒ 100V]	TR-200
[AC220V ⇒ 100V]	TR-220
[AC240V ⇒ 100V]	TR-240

Note: 600 W, 2 pole outlet + grounding / 1 outlet
Use TR-220 when the power supply is AC210 V.
Use TR-240 when the power supply is AC230 V.

Flow up to the start of production



Flexible handling of fluid packages of 100 mL or more.

Cartridge

MUSASHI high-performance cartridges for 100 mL and larger fluid packages are available in 100, 170, and 340 mL to suit daily use and dispensing volume. The lineup also includes sealants (330 mL) and dedicated cartridges for dispensing a fixed volume of fluid filled in tubes. It can be connected to a dispensing controller and used for a variety of dispensing applications, from manual operation to automated machine mounting, enabling hygienic dispensing operations without contaminating hands or work area.



Air-pulse/cartridge system

Best suited system for dispensing large fluid volumes continuous operation

Fill a polyethylene barrel with fluid for dispensing operation. There are three barrel sizes: 100 mL, 170 mL, and 340 mL. Cartridges can be used in a wide range of dispensing operations to match the daily consumption.



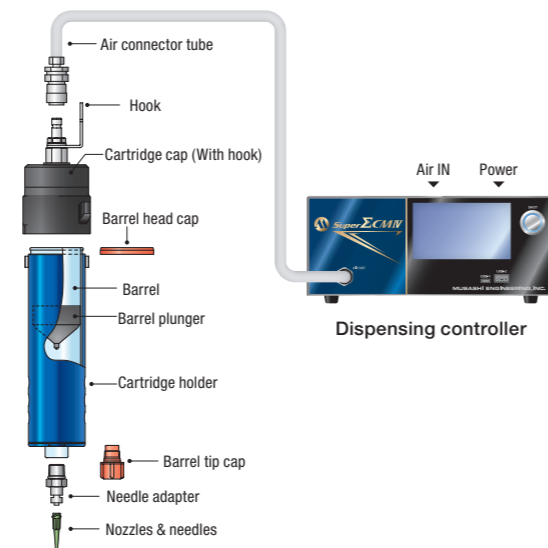
Valve/cartridge system

The smallest valve dispensing system

This dispensing system combines a quantitative fluid dispensing valve with a cartridge system dispenser. While it is compact, you can select a barrel size up to 340 mL, for continuous dispensing of low to high viscosity materials. (This system uses the ME-5000VT dispenser specialized for valve control.)



Air-pulse Connection system configuration diagram



One-touch type

Locking mechanism enables quick and secure cartridge mounting



Insert barrel or tube into cartridge holder



Set the cartridge cap in the cartridge holder

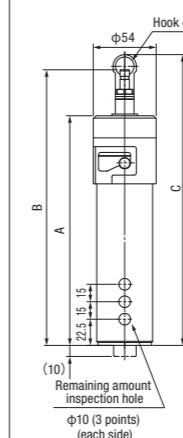
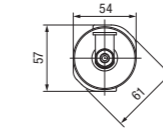
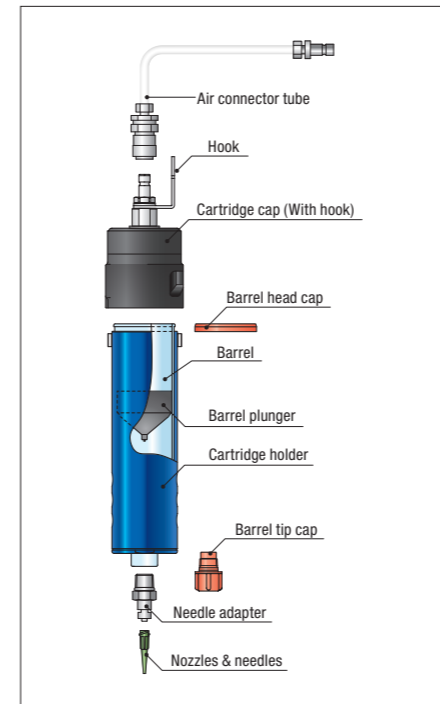


Rotate cartridge caps to lock securely in place

Barrel cartridge

Speedy attachment/detachment just in a few seconds!

Workability in barrel replacement is dramatically improved. This is suitable for large volumes of fluid. You can select the best size from among 100 mL, 170 mL, and 340 mL according to your daily requirements and dispensing volumes.



Barrel cartridge

Item name	Model	Weight	Minimum Order Quantity
[100 mL]	CS-100C	265 g	1 set
[170 mL]	CS-170C	335 g	1 set
[340 mL]	CS-340C	455 g	1 set
[100 mL with hook]	CS-100C-HK	275 g	1 set
[170 mL with hook]	CS-170C-HK	345 g	1 set
[340 mL with hook]	CS-340C-HK	465 g	1 set

Note: 1. Always applied pressure: 0.5 MPa or less.
2. The barrel cartridge set consists of a cartridge holder and a cartridge cap.

Barrel cartridge components

Capacity	Item name	Model	Material	Minimum Order Quantity
100 mL	Cartridge cap [without hook]	CC-P-001-1	—	Select either one
	Cartridge cap [with hook]	CC-P-001-2	—	
170 mL	Cartridge holder [100 mL barrel use]	CH-100C	Aluminium alloy	1
	Cartridge cap [without hook]	CC-P-001-1	—	Select either one
Cartridge cap [with hook]	CC-P-001-2	—		
340 mL	Cartridge holder [170 mL barrel use]	CH-170C	Aluminium alloy	1
	Cartridge cap [without hook]	CC-P-001-1	—	Select either one
Cartridge cap [with hook]	CC-P-001-2	—		
340 mL	Cartridge holder [340 mL barrel use]	CH-340C	Aluminium alloy	1

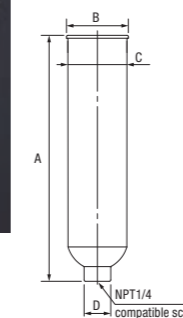
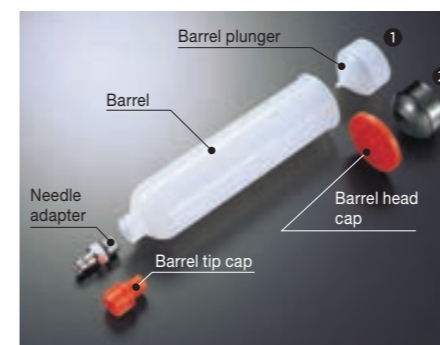
Measurement unit (mm)

Model	A	B	C
CS-100C	119	160.5	—
CS-100C-HK	119	160.5	171.5
CS-170C	197	238.5	—
CS-170C-HK	197	238.5	249.5
CS-340C	328	369.5	—
CS-340C-HK	328	369.5	380.5

Barrel parts

Fluid container for cartridge type

A container or cap to fill the cartridge with fluid material.



Barrel parts

Item name	Model	Material	Minimum Order Quantity	Remarks
[100 mL, Type B]	PB-100B	Polyethylene	10	—
[170 mL, Type C]	PB-170C	Polyethylene	10	
[340 mL, Type C]	PB-340C	Polyethylene	10	
Barrel plunger	① [Type W1]	PP-W1	10	White/Loose
	② [Type B1]	PP-B1	10	Black/Tight
Barrel head cap	[Type 4]	BC-4	10	—
Barrel head cap	[Type 4]	BP-4	10	—
Needle adapter	[No.12]	P-NADP-12	1	—
	[No.13]	P-NADP-13	1	

UV-block Barrel parts

Item name	Model	Material	Minimum Order Quantity	Remarks
UV-block barrel [170 mL type C]	PB-170CU-OR	Polypropylene	10	—
UV-block barrel [340 mL type C]	PB-340CU-OR	Polypropylene	10	
③ UV-block barrel head cap [Type 4]	BC-4U-B	Polyethylene	10	
④ UV-block barrel tip cap [Type 4]	BP-4U-B	Polypropylene	10	

Consumables for cartridge caps

Item name	Model	Minimum Order Quantity
Seal spring [for cartridge cap]	P-SSP-1	1
O-ring receiver [for cartridge cap]	CS-P-001-1A	1
O-ring (for cap sealing)	ORG-42-V-B-1	1
O-ring (for barrel sealing)	ORG-34-V-B-1	1

Item name	Model	Minimum Order Quantity
Seal retainer [for cartridge cap]	SCS-P-001-1C	1
Screw [No.2]	P-SCW-2	1
Cartridge cap hook	SCS-P-005-1	1
Pneumatic quick joint [plug R1/8]	QP-1B	1



Sealant cartridge



Direct constant volume dispensing with commercially available sealant

This cartridge is used for dispensing with a commercially available 330 mL sealant.

Sealant cartridge

Item name	Model	Weight	Minimum Order Quantity
Sealant cartridge [without hook]	SCS-330	570 g	1 set
Sealant cartridge [with hook]	SCS-330-HK	580 g	1 set

Note: 1. Always applied pressure: 0.5 MPa or less.
2. The sealant cartridge consists of a cartridge cap, cartridge holder, O-ring, tip adapter, and needle adapter.

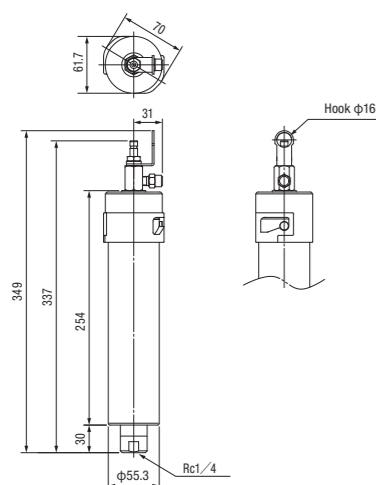
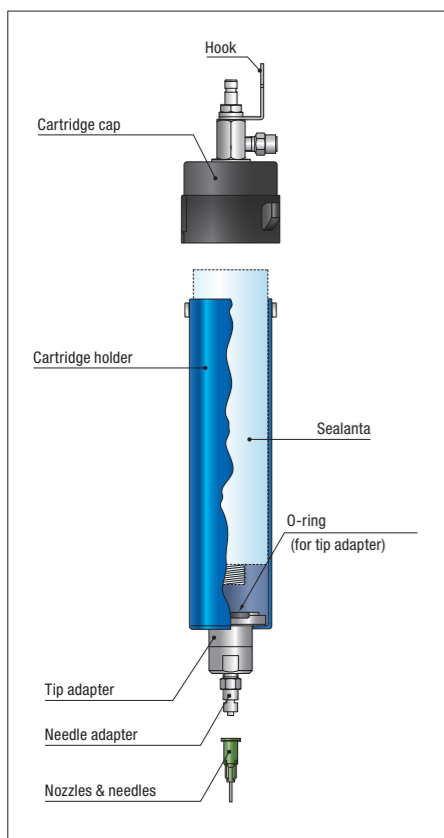
Sealant cartridge components

Item name	Model	Material	Minimum Order Quantity
Cartridge cap	[without hook]	PBT, Polyacetal, Stainless steel, Brass, NBR, Fluororubber	1
	[with hook]		1
Cartridge holder [sealant use]	SCS-P-002-1	Aluminium alloy (anodized), Stainless steel	1
O-ring	ORG-20-V-B-1	Fluororubber	1
Needle adapter [No.11]	P-NADP-11	Brass (Nickel plated)	1

Consumables/options

Item name	Model	Material	Minimum Order Quantity
Tip adapter *1	[Type TB]	Aluminium alloy (anodized), Fluororubber	1
	[Type S]		1
	[Type TR]		1
	[Type TS]		1
	[Type MI]		1
	[Type MO]		1
	[Type C]		1
Packing	[No.23]	Fluororubber	1
	[No.15]	Fluororubber	
	[No.46]	Fluororubber	
Seal spring [for cartridge cap]	P-SSP-1	Stainless steel	1
Seal retainer [for cartridge cap]	SCS-P-001-1C	Polyacetal	
Screw	[No.17]	Stainless steel	
	[φ20 Material V Color B #1]	ORG-20-V-B-1	
	[φ16 Material V Color B #1] only for TS	ORG-16-V-B-1	Fluororubber
O-ring	[φ14 Material V Color B #1] only for TS	ORG-14-V-B-1	Fluororubber
Cartridge cap hook *2	SCS-P-005-1	-	

*1 The tip adapter is available in seven types (TB, TR, S, TS, MI, MO, C) according to the sealant used by the fluid manufacturer. Please contact our sales department.
*2 Component parts are two parts.



Compatible with the sealants from various manufacturers



Note: This item needs to be selected in accordance with the material manufacturer's sealant to be used. Contact our sales department.

Tube cartridge



Direct dispensing from commercially available tubes

This cartridge set enables direct loading of commercially available fluid materials in tubes and direct dispensing with tubes for fixed volume.

Tube cartridge (former: tube cartridge set)

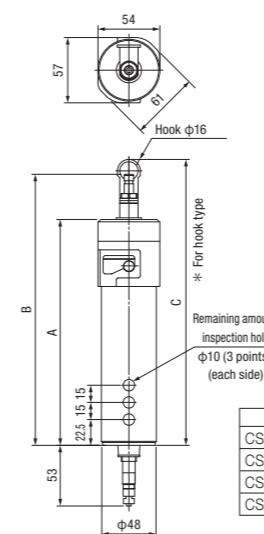
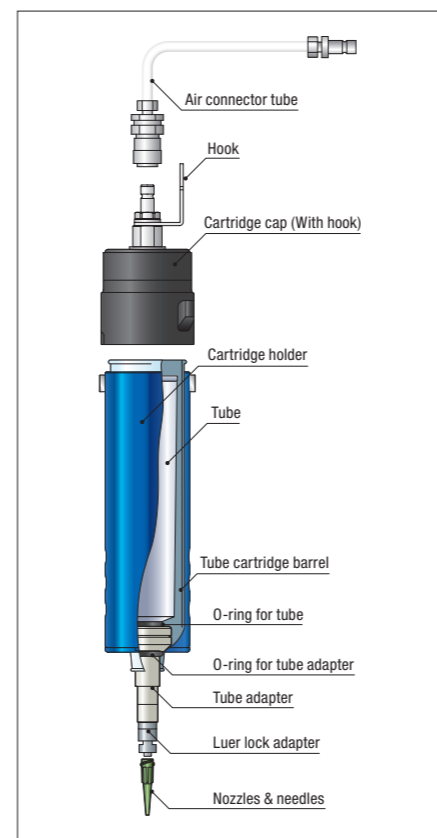
Item name	Model	Weight	Minimum Order Quantity
Tube cartridge	[100 g]	CS-170CT	378 g
	[100 g, Type TD]	CS-170CT-TD	378 g
	[100 g with hook]	CS-170CT-HK	388 g
	[100 g, Type TD, with hook]	CS-170CT-TD-HK	388 g
Tube cartridge	[200 g]	CS-230CT	430 g
	[200 g type TD]	CS-230CT-TD	430 g
	[200 g with hook]	CS-230CT-HK	440 g
	[200 g type TD with hook]	CS-230CT-TD-HK	440 g

Note: 1. Select one of two types of tube cartridges according to the capacity and liquid material to be used. Contact our sales department after confirming the manufacturer, material type, and capacity of the liquid tube.
2. Always applied pressure: 0.5 MPa or less.
3. The tube cartridge consists of a cartridge holder, cartridge cap, tube cartridge barrel, O-ring for tube (for tube adapter), tube adapter, O-ring (for luer lock adapter), and luer lock adapter.

Tube cartridge components

capacity	Item name	Model	Material	Minimum Order Quantity	
For NET 100 g	Cartridge cap	[without hook]	CC-P-001-1	-	
		[with hook]	CC-P-001-2	-	
	Cartridge holder [170 mL tube use]	CH-170CT	Aluminium alloy	1	
	Tube cartridge barrel [170 mL] *3 *5	PB-170BT	Polyethylene	1	
	O-ring for tube *1	-	Fluororubber	1	
	O-ring (for tube adapter) [φ12 Material V Color B #1]		ORG-12-V-B-1	Fluororubber	1
		Tube adapter [For No.3 CS-170/230 CT] *2 *3	P-TADP-3	Polypropylene	Select either one
For NET 200 g	Cartridge cap	[without hook]	CC-P-001-1	-	
		[with hook]	CC-P-001-2	-	
	Cartridge holder [230 mL tube use]	CH-230C	Aluminium alloy	1	
	Tube cartridge barrel [230 mL] *3 *5	PB-230BT	Polyethylene	1	
	O-ring for tube *1	-	Fluororubber	1	
O-ring (for tube adapter) [φ12 Material V Color B #1]		ORG-12-V-B-1	Fluororubber	1	
	Tube adapter [For No.3 CS-170/230 CT] *2 *3	P-TADP-3	Polypropylene	Select either one	
O-ring (for luer lock adapter) [φ8 Material V Color B #1]		ORG-8-V-B-1	Fluororubber	1	
	Tube adapter [For No.2 CS-170/230 CT-TD] *2 *3	P-TADP-2	Polypropylene	Select either one	
	Luer lock adapter [No.1]	P-LADP-1	Polypropylene *4	1	

*1 The screw shapes of the end of the tubes and O-rings for tubes vary, depending on the liquid material. Confirm the manufacturer, material type and capacity and then contact our sales office.
*2 Select one of two types of tube adapters according to the liquid material to be used. Contact our sales department after confirming the manufacturer, material type, and capacity.
*3 Tube cartridge barrels and tube adapters are consumables. Periodical replacement is recommended.
*4 Wetted part is made of fluorocarbon resin, and luer lock part is metallic.
*5 Use Musashi's 170 mL type barrel for NET100 g and 230 mL type barrel for NET200 g.



Measurement unit (mm)

Model	A	B	C
CS-170CT(-TD)	197	238.5	-
CS-170CT(-TD)-HK	197	238.5	249.5
CS-230CT(-TD)	243	284.5	-
CS-230CT(-TD)-HK	243	284.5	295.5

Compatible with tubes from various manufacturers



Note: This item needs to be selected in accordance with the material manufacturer's tube to be used. Contact our sales department.

Born from the know-how of a dispenser manufacturer

Desktop/ cartesian robot

A motion unit that "dispenses" the fluid from the dispenser into the required shape. MUSASHI desktop robot and cartesian robot are unrivalled in their unique evolution as dedicated dispensing robots for precision dispensing.



Desktop robot

SHOT mini SHOTMASTER



A desktop type robot that can perform dispensing operations from the day it is delivered. As well as introduction to semi-automatic cell production systems, we can respond to all markets and needs, from R&D to prototype mass production.

Cartesian robot

X CROSS MASTER



Incorporated type cartesian robots that enable the smooth transfer of dispensing processes established with desktop type robots to fully automated equipment and production lines. It implements labor saving, productivity improvement, and quality improvement in the dispensing process.

Choice of two types according to application and use environment



High-speed
800 mm/s top level operation speed in desktop class

High Precision
Repetitive positioning accuracy ± 0.01 mm



High Rigidity
Fast and stable operation even for heavy tools and workpieces.

High Precision
Class-leading ± 0.005 mm repetitive positioning accuracy



Options for Safety safety cover

Two varieties of safety light curtain type and door type are available. It can be selected according to the application, such as safety and work environment.

All MUSASHI dispensers can be mounted.

Air-pulse dispenser



Super Σ CMV

JET dispenser



SuperJet 3
Hi POWER / Hi SPEED

Volume measuring Plunger Dispenser



MEASURING MASTER
MPP-5-M

Screw dispenser



SCREWMASTER 3

MOHNO type dispenser



MOHNO MASTER

Fully enhanced operability

Teaching pendant

Robot motion is programmed by inputting the coordinate values of each axis and motion commands. The large backlight screen makes the display easy to view, and the two screen display facilitates programming. Many useful functions such as interactive navigation and a stopwatch function are included. Japanese, English, and Chinese are supported.



Dispensing pattern editing software

MuCAD V

Intuitive editing of dispensing patterns is possible. Easy-to-understand program command icons for beginners to operate, creating free dispensing programming with a CAD like feel. Automatic generation of dispensing programs from DXF data, etc. is also possible.



For details, see \rightarrow P72-73

Coordinated with dispenser



Synchro Speed function PAT.

Maintains a fixed line width, regardless of robot speed. Achieves high-quality dispensing automatically, without the need for any complex adjustments.



Right-angle dispensing

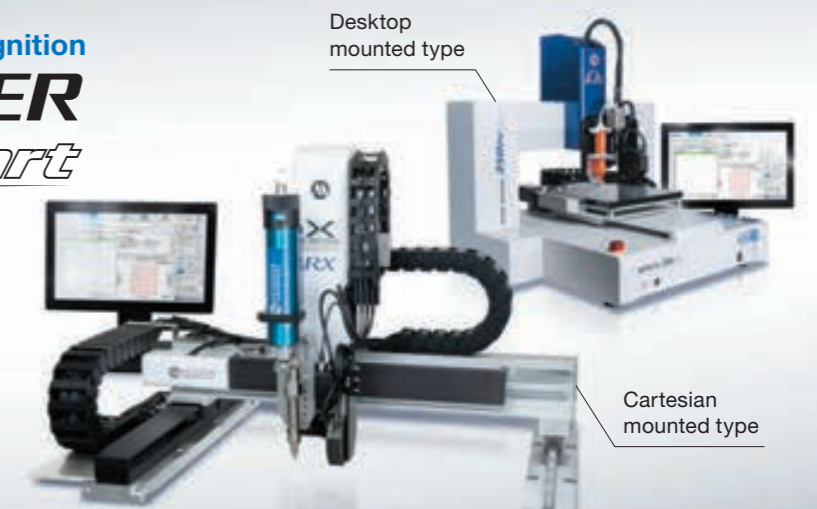
Synchro Speed
function ON



Robot with PC control image recognition IMAGE MASTER 350PC Smart

There is no problem even if individual workpieces have different distortions or warping, or if workpieces are misaligned in the pallet. The dispense machine automatically senses and performs optimal dispensing. In addition, a full production log function monitors the production cycle from workpiece loading to unloading to ensure stable production. A wide variety of other options are available.

For details, see \rightarrow P68-69



Desktop
mounted type

Cartesian
mounted type

SHOTmini/SHOTMASTER SX series

MUSASHI's general-purpose desktop robot, the global de facto standard.



SHOTmini/SHOTMASTER OX series

MUSASHI's general-purpose desktop robot, the global de facto standard.



SHOTmini/SHOTMASTER SX series Line up



SHOTmini 100SX



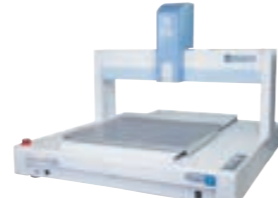
SHOTmini 200SX



SHOTMASTER 300SX



SHOTMASTER 400SX



SHOTMASTER 500SX

Specifications

Item name	SHOTmini 100SX	SHOTmini 200SX		SHOTMASTER 300SX		SHOTMASTER 400SX		SHOTMASTER 500SX		
Model	SM100SX -3A-SS	SM200SX -3A-SS-01	SM200SX -4A-SS	SM300SX -3A-SS	SM300SX -4A-SS	SM400SX -3A-SS	SM400SX -4A-SS	SM500SX -3A-SS	SM500SX -4A-SS	
No. of controlled axes	3-axis		4-axis	3-axis	4-axis	3-axis	4-axis	3-axis	4-axis	
Travel ranges	X-axis, Y-axis	100 mm	200 mm		300 mm		400 mm		500 mm	
	Z-axis	50 mm			80 mm					
	W-axis	—	±360°		—	±360°	—	±360°	—	±360°
Setting range of PTP operation speed*1	X-axis, Y-axis	1 to 800 mm/s								
	Z-axis	1 to 350 mm/s		1 to 250 mm/s		1 to 400 mm/s				
	W-axis	—	1 to 900°/s		—	1 to 900°/s	—	1 to 900°/s	—	1 to 900°/s
Setting range of interpolation operation speed*1	X-axis, Y-axis	0.1 to 800 mm/s								
	Z-axis	0.1 to 350 mm/s		0.1 to 250 mm/s		0.1 to 400 mm/s				
	W-axis	—	0.1 to 900°/s		—	0.1 to 900°/s	—	0.1 to 900°/s	—	0.1 to 900°/s
Repetitive positioning accuracy*2	X-axis, Y-axis	±0.01 mm								
	Z-axis	±0.01 mm								
	W-axis	—	±0.01°		—	±0.01°	—	±0.01°	—	±0.01°
Loading capacity*3	Y-axis	8 kg			15 kg					
	Z-axis	2 kg	3.5 kg	2.5 kg	7 kg	6 kg	7 kg	6 kg	7 kg	6 kg
Rated voltage and frequency	AC100-240 V 50/60 Hz									
Power consumption	100 W		120 W	200 W	220 W	200 W	220 W	200 W	220 W	
External dimensions*4 (excluding protrusions)	W	202 mm		302 mm		510 mm		710 mm		
	D	290 mm		301 mm		570 mm		770 mm		
	H	440 mm		555 mm		590 mm	690 mm	590 mm	690 mm	590 mm
Weight	11 kg	13.3 kg	15.5 kg	37 kg	40 kg	55 kg	58 kg	66 kg	69 kg	

Common specifications

Control system*5	PTP control and interpolation control	
Interpolation function	3D line, 3D circular arc/circle, 3D elliptic arc/ellipse, spline	
Number of input/output signal points	General-purpose input	26 points
	General-purpose output	26 points
Program entry method	Teaching pendant, PC	
Program display language	Japanese, English, Chinese	
Program capacity*6	40000 steps (999 channels)	
Program storage system	Internal	Internal memory
	External	Backup on PC with dispensing pattern editing software
Program editing software	MuCAD V (option)	

- *1 These values vary depending on the operation, loaded object weight, load center position and other factors.
- *2 This value is measured by the Musashi standards measurement methods (compliant with JIS).
- *3 When options are not installed. The value varies with setting speed, setting acceleration/deceleration time, and operations.
- *4 W and D are the dimensions of the lower section of the case.
- *5 PTP control: Control to move each specified axis to the end-point coordinates at each speed. Interpolation control: Control to move each specified axis to the end coordinates at the total interpolated speed.
- *6 Main routine: 1 to 99 CH, sub routine: 100 to 999 CH
- * OX series has no (motor) step-out specifications.

No need for fine adjustment after nozzle replacement

Nozzle adjuster

- Automated nozzle position offset adjustment after syringe replacement
- Significant reduction in downtime
- Nozzle position can be adjusted while dispensing program is running



Prevention of nozzle drying

Immersion unit

- This unit prevents material drying at the nozzle tip and maintains optimal conditions.



Dummy shot unit

- This unit suppresses nozzle clogging through the dummy shot and maintains stable dispensing.



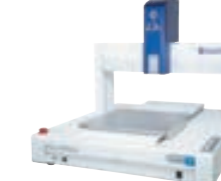
SHOTmini/SHOTMASTER OX series Line up



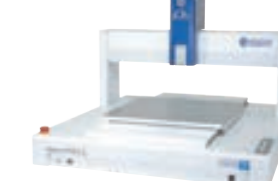
SHOTmini 200OX



SHOTMASTER 300OX



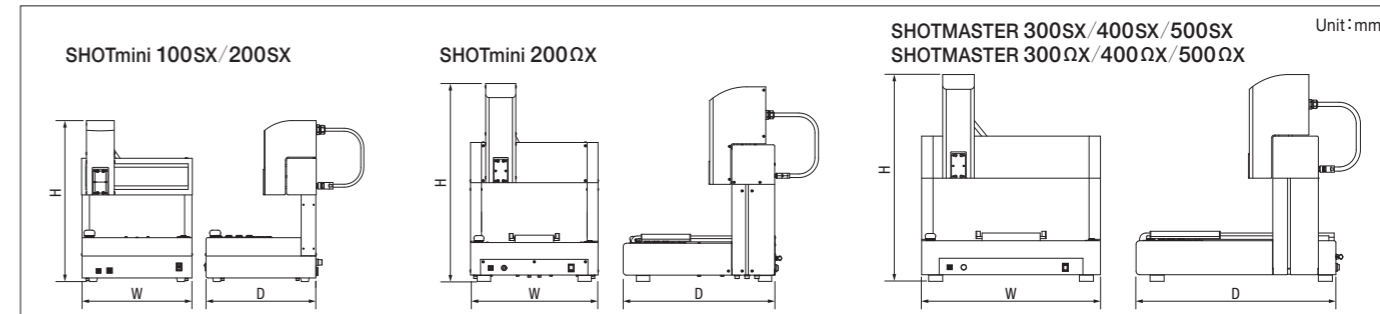
SHOTMASTER 400OX



SHOTMASTER 500OX

Specifications

Item name	SHOTmini 200OX		SHOTMASTER 300OX		SHOTMASTER 400OX		SHOTMASTER 500OX		
Model	SM200OMEGAX -3A-SS	SM200OMEGAX -4A-SS	SM300OMEGAX -3A-SS	SM300OMEGAX -4A-SS	SM400OMEGAX -3A-SS	SM400OMEGAX -4A-SS	SM500OMEGAX -3A-SS	SM500OMEGAX -4A-SS	
No. of controlled axes	3-axis		4-axis	3-axis	4-axis	3-axis	4-axis	4-axis	
Travel ranges	X-axis, Y-axis	200 mm		300 mm		400 mm		500 mm	
	Z-axis	80 mm							
	W-axis	—	±360°	—	±360°	—	±360°	—	±360°
Setting range of PTP operation speed*1	X-axis, Y-axis	1 to 500 mm/s							
	Z-axis	1 to 400 mm/s							
	W-axis	—	1 to 900°/s	—	1 to 900°/s	—	1 to 900°/s	—	1 to 900°/s
Setting range of interpolation operation speed*1	X-axis, Y-axis	0.1 to 500 mm/s							
	Z-axis	0.1 to 400 mm/s							
	W-axis	—	0.1 to 900°/s	—	0.1 to 900°/s	—	0.1 to 900°/s	—	0.1 to 900°/s
Repetitive positioning accuracy*2	X-axis, Y-axis	±0.005 mm							
	Z-axis	±0.005 mm							
	W-axis	—	±0.01°	—	±0.01°	—	±0.01°	—	±0.01°
Loading capacity*3	Y-axis	20 kg							
	Z-axis	15 kg	12 kg	15 kg	12 kg	15 kg	12 kg	15 kg	12 kg
Rated voltage and frequency	AC100-240 V 50/60 Hz								
Power consumption	130 W	150 W	130 W	150 W	180 W	200 W	180 W	200 W	
External dimensions*4 (excluding protrusions)	W	380 mm		510 mm		610 mm		710 mm	
	D	460 mm		570 mm		670 mm		770 mm	
	H	590 mm	690 mm	590 mm	690 mm	590 mm	690 mm	590 mm	690 mm
Weight	30 kg	33 kg	40 kg	43 kg	55 kg	58 kg	66 kg	69 kg	



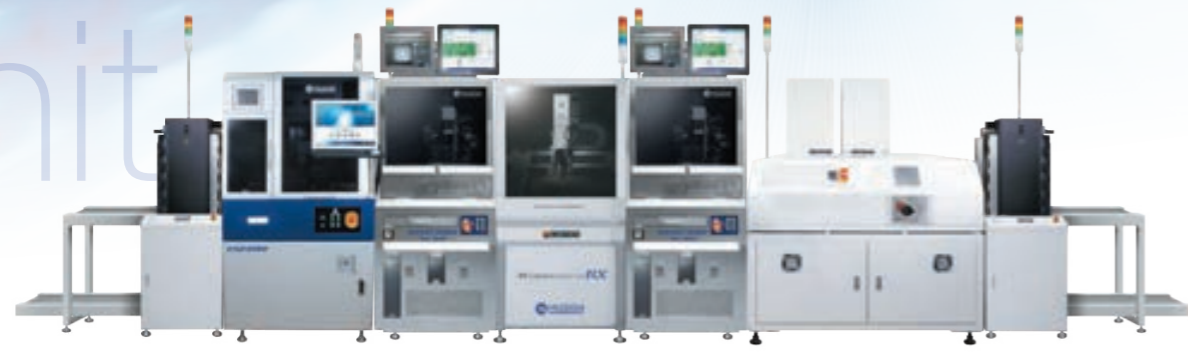
SHOTmini/SHOTMASTER SX and OX

Model Identification

Type	Type X, Y stroke	Series	No. of Axes	Extension	SS function
SM 200	100:100×100 mm	SX - OMEGAX	3A	EXT100	SS
	200:200×200 mm				
	300:300×300 mm				
	400:400×400 mm				
	500:500×500 mm				
				None: Standard height	
				EXT50: +50 mm	
				EXT100: +100 mm	

*SS: Synchro Speed function
*100×100 mm is only for SX *3A-Z is only for 200SX *100SX is 4A, not for bulk

Inline Motion Unit



MUSASHI's cartesian robot for inline production

X CROSS MASTER SERIES

RX SERIES

220RX / 230RX / 240RX / 320RX / 330RX / 340RX / 420RX / 430RX / 440RX

Features of the CROSS MASTER RX

Selectable stroke

Select optimum stroke from 9 available combinations.

X-axis stroke

200/300/400

Y-axis stroke

200/300/400



Select from finished product or assembly set

Choose an option to suit your needs.



Finished products with bases



3-axis assembly set

SX SERIES

230SX / 340SX / 460SX / 680SX



OX SERIES

330OX / 440OX / 560OX / 780OX



X CROSS MASTER RX series

Inline Motion Unit in the new era.



CROSSMASTER RX series Line up



CROSSMASTER 220RX



CROSSMASTER 330RX



CROSSMASTER 440RX



Controller



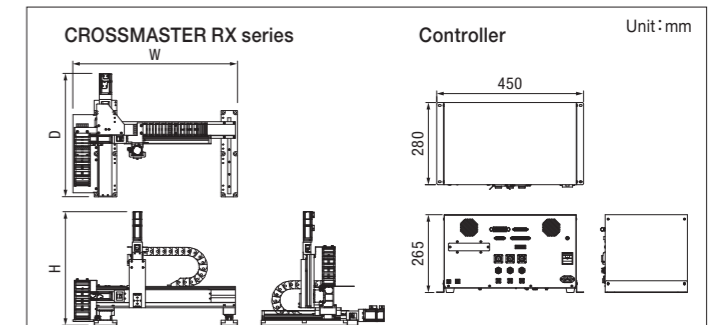
External operation BOX

Specifications

Item name	CROSSMASTER 220RX	CROSSMASTER 230RX	CROSSMASTER 240RX	CROSSMASTER 320RX	CROSSMASTER 330RX	CROSSMASTER 340RX	CROSSMASTER 420RX	CROSSMASTER 430RX	CROSSMASTER 440RX		
Model	XM220RX-3A-L-SBA XM220RX-3A-L-AAS	XM230RX-3A-L-SBA XM230RX-3A-L-AAS	XM240RX-3A-L-SBA XM240RX-3A-L-AAS	XM320RX-3A-L-SBA XM320RX-3A-L-AAS	XM330RX-3A-L-SBA XM330RX-3A-L-AAS	XM340RX-3A-L-SBA XM340RX-3A-L-AAS	XM420RX-3A-L-SBA XM420RX-3A-L-AAS	XM430RX-3A-L-SBA XM430RX-3A-L-AAS	XM440RX-3A-L-SBA XM440RX-3A-L-AAS		
No. of controlled axes	3-axis										
Travel ranges	X-axis	200 mm	200 mm	200 mm	300 mm	300 mm	300 mm	400 mm	400 mm	400 mm	
	Y-axis	200 mm	300 mm	400 mm	200 mm	300 mm	400 mm	200 mm	300 mm	400 mm	
	Z-axis	150 mm									
Setting range of PTP operation speed*1	X-axis, Y-axis	1 to 500 mm/s									
	Z-axis	1 to 300 mm/s									
Setting range of interpolation operation speed*1	X-axis, Y-axis	0.1 to 500 mm/s									
	Z-axis	0.1 to 300 mm/s									
Repetitive positioning accuracy*2	X-axis, Y-axis, Z-axis	±0.005 mm									
Loading capacity*3	7.5 kg										
Rated voltage and frequency	Single phase, AC200-240 V 50/60 Hz										
Power consumption	300 W										
External dimensions (excluding protrusions)	W	SBA	700 mm	700 mm	700 mm	800 mm	800 mm	800 mm	900 mm	900 mm	900 mm
		AAS	684 mm	684 mm	684 mm	784 mm	784 mm	784 mm	884 mm	884 mm	884 mm
	D	SBA	600 mm	700 mm	800 mm	600 mm	700 mm	800 mm	600 mm	700 mm	800 mm
		AAS	595 mm	695 mm	795 mm	595 mm	695 mm	795 mm	595 mm	695 mm	795 mm
	H	SBA	553 mm								
		AAS	528 mm								
Weight	SBA	38 kg	43 kg	48 kg	39 kg	44 kg	49 kg	40 kg	45 kg	50 kg	
	AAS	21 kg	22 kg	23 kg	22 kg	23 kg	24 kg	23 kg	24 kg	25 kg	

Common specifications

Control system*4	PTP control and interpolation control	
3D interpolation function	Line, circular arc, circle, elliptical arc, ellipse, spline	
Number of input/output signal points	General-purpose input	20 points
	General-purpose output	23 points
Program entry method	Teaching pendant, PC	
Program display language	Japanese, English, Chinese	
Program capacity*5	40000 steps (999 channels)	
Program storage system	Internal	Internal memory
	External	Backup on PC with dispensing pattern editing software
Program editing software	MuCAD V (option)	
Controller dimensions	W450×D280×H265 mm (excluding protrusions)	
Weight of dispense controller	15 kg	



Note1: The CROSSMASTER RX series corresponds to industrial robots. Note2: All models have no (motor) step-out specifications.

*1 These values vary depending on the operation, loaded object weight, load center position and other factors. *2 This value is measured by the Musashi standards measurement methods (compliant with JIS).
*3 The value varies with setting speed, setting acceleration/deceleration time, and operations.
*4 PTP control: Control to move each specified axis to the end coordinates at each speed. Interpolation control: Control to move each specified axis to the end coordinates at the total interpolated speed.
*5 Main routine: 1 to 99 CH, Sub routine: 100 to 999 CH.

CROSSMASTER RX Model Identification	Type	Type X, Y stroke	Series	No. of Axes	X-axis origin position	Shipping type
		XM 220	220:200×200 mm 320:300×200 mm 420:400×200 mm	RX - 3A - L - SBA	3A:3-axis	L: Left



MUSASHI's dispensing motion unit mountable on automated units.



In-line 3D dispensing, condensed dispensing know-how.



CROSSMASTER SX series Line up



Specifications

Item name	CROSSMASTER 230SX	CROSSMASTER 340SX	CROSSMASTER 460SX	CROSSMASTER 680SX
Model	XM230SX-3A-L-SS XM230SX-3A-R-SS	XM340SX-3A-L-SS XM340SX-3A-R-SS	XM460SX-3A-L-SS XM460SX-3A-R-SS	XM680SX-3A-L-SS XM680SX-3A-R-SS
No. of controlled axes	3-axis			
Travel ranges	X-axis	200 mm	300 mm	600 mm
	Y-axis	300 mm	400 mm	800 mm
	Z-axis	150 mm		
Setting range of PTP operation speed*1	X-axis	1 to 500 mm/s		1 to 470 mm/s
	Y-axis	1 to 500 mm/s		1 to 1000 mm/s
	Z-axis	1 to 300 mm/s		
Setting range of interpolation operation speed*1	X-axis	0.1 to 500 mm/s		0.1 to 470 mm/s
	Y-axis	0.1 to 500 mm/s		0.1 to 999.9 mm/s
	Z-axis	0.1 to 300 mm/s		
Repetitive positioning accuracy*2	X-axis	±0.01 mm		
	Y-axis	±0.01 mm		
	Z-axis	±0.01 mm		
Loading capacity*3	2.5 kg			
Rated voltage and frequency	Single phase, AC200-240 V 50/60 Hz			
Power consumption	200 W		300 W	
External dimensions (excluding protrusions)	W	565 mm	635.5 mm	1052.5 mm
	D	565 mm	651 mm	1123 mm
	H	470 mm		490 mm
Weight	25.5 kg	28.5 kg	44.5 kg	67.5 kg

Common specifications

Control system*4	PTP control and interpolation control
3D interpolation function	Line, circular arc, circle, elliptical arc, ellipse, spline
Number of input/output signal points	General-purpose input: 20 points
	General-purpose output: 23 points
Program entry method	Teaching pendant, PC
Program display language	Japanese, English, Chinese
Program capacity*5	40000 steps (999 channels)
Program storage system	Internal: Internal memory
	External: Backup on PC with dispensing pattern editing software
Program editing software	MuCADV (option)
Controller dimensions	W450×D340×H265 mm (excluding protrusions)
Weight of dispense controller	18 kg

- *1 These values vary depending on the operations, weight and center of gravity of the loaded object, and other factors.
- *2 This value is measured by the method specified by Musashi (measurement method complies with JIS).
- *3 When options are not installed. The value varies with setting speed, setting acceleration/deceleration time, and operations.
- *4 PTP control: Control to move each specified axis to the end coordinates at each speed. Interpolation control: Control to move each specified axis to the end coordinates at the total interpolated speed.
- *5 Main routine: 1 to 99 CH. Sub routine: 100 to 999 CH.
- *The XM460SX series, XM680SX series and XM0X series correspond to industrial robots.
- *All models have no (motor) step-out specifications.

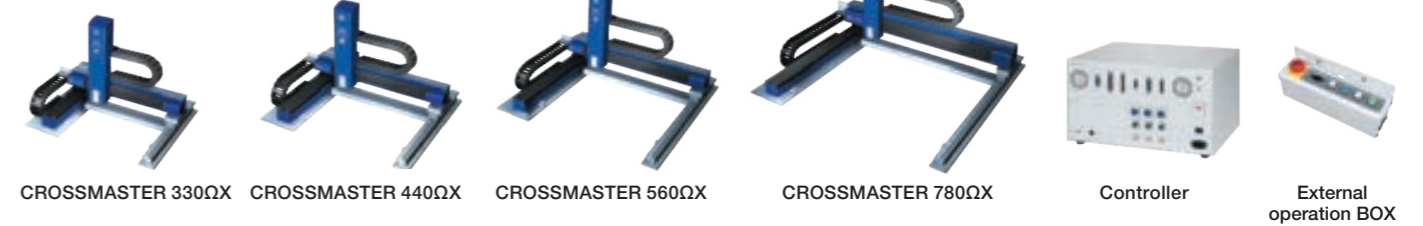
Convenient features of desktop/cartesian robot

Capable of applying a variety of dispensing to workpieces of complex shapes
Three-dimensional circular interpolation and spline operations are also freely available.
Changeable dispensing condition settings according to the dispensing location
Remote control of dispenser dispensing conditions CH during automatic operation.

No mislocation by no (motor) step-out.
Prevents the robot head from falling during emergency stops
Braking function is provided.

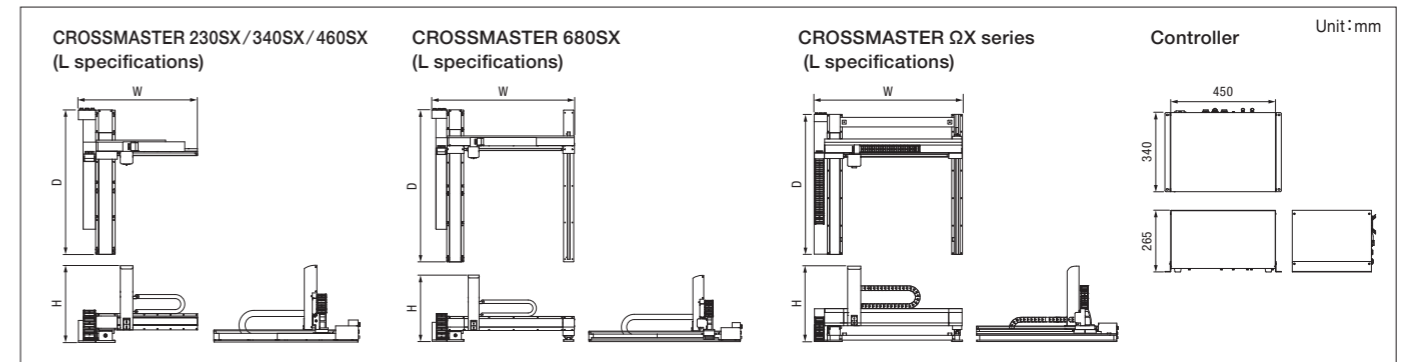
Field network is available.
Note: Optional support

CROSSMASTER OX series Line up



Specifications

Item name	CROSSMASTER 330OX	CROSSMASTER 440OX	CROSSMASTER 560OX	CROSSMASTER 780OX
Model	XM330OMEGAX-3A-L-SS XM330OMEGAX-3A-R-SS	XM330OMEGAX-4A-L-SS XM330OMEGAX-4A-R-SS	XM440OMEGAX-3A-L-SS XM440OMEGAX-3A-R-SS	XM440OMEGAX-4A-L-SS XM440OMEGAX-4A-R-SS
No. of controlled axes	3-axis	4-axis	3-axis	4-axis
Travel ranges	X-axis, Y-axis	300×300 mm		400×400 mm
	Z-axis	150 mm		
	W-axis	±360°	—	±360°
Setting range of PTP operation speed*1	X-axis, Y-axis	1 to 500 mm/s		
	Z-axis	1 to 400 mm/s		
	W-axis	1 to 900°/s	1 to 900°/s	1 to 900°/s
Setting range of interpolation operation speed*1	X-axis, Y-axis	0.1 to 500 mm/s		
	Z-axis	0.1 to 400 mm/s		
	W-axis	0.1 to 900°/s	0.1 to 900°/s	0.1 to 900°/s
Repetitive positioning accuracy*2	X-axis, Y-axis	±0.005 mm		
	Z-axis	±0.005 mm		
	W-axis	±0.01°	±0.01°	±0.01°
Loading capacity*3	10 kg	7 kg	10 kg	7 kg
Rated voltage and frequency	Single phase, AC200-240 V 50/60 Hz			
Power consumption	300 W	320 W	300 W	320 W
External dimensions (excluding protrusions)	W	831 mm	931 mm	1031 mm
	D	671 mm	771 mm	971 mm
	H	630 mm		
Weight	80 kg	83 kg	91 kg	94 kg



Type	Type X, Y stroke	Series	No. of Axes	X-axis origin position	SS function
CROSSMASTER SX and OX Model Identification	230:200×300 mm	SX	3A	L	SS
	340:300×400 mm				
	330:300×300 mm	OMEGAX	4A	L	SS
	440:400×400 mm				

Note 1: SS=Synchro Speed function
Note 2: 4 A is for OX only

Dispensing platform from research and prototyping to mass production

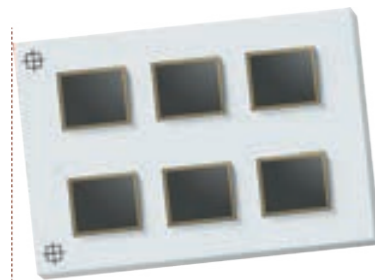
IMAGE MASTER 350PC Smart PAT.



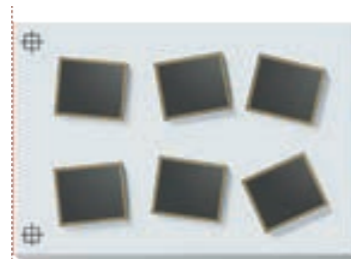
Highly precise positioning

XY Alignment

By image recognition, displacement and inclinations are corrected.



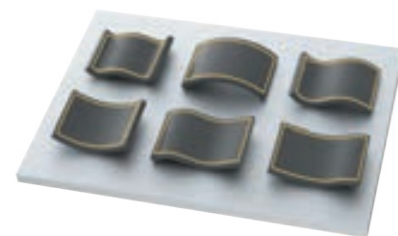
The inclination of the palette



Displacement and inclinations of each workpiece

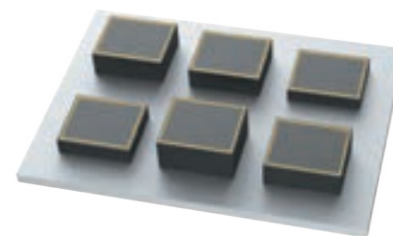
3-D alignment (Profiling)

Correction of distortion and warpage of workpieces



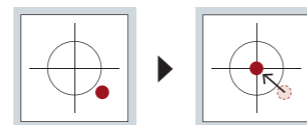
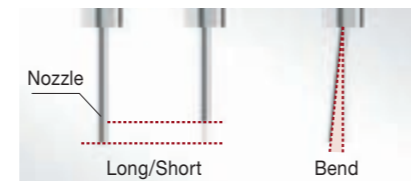
Height correction

Correction of height differences of workpieces

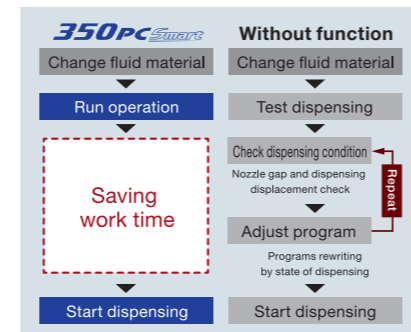


Positioning of the nozzle

When syringes exchanged, differences of the length and the bend of the nozzle are corrected.



Displacement by the bend of the palette After correction



NEW Confirmation function after preheating

It is possible to detect dispensing abnormalities after performing a preheating shot. Prevent defective products by detecting abnormal conditions before dispensing to the actual workpiece.



Pattern matching, OK / NG determination based on contact diameter

Syringe temperature control Option

By image recognition, displacement and inclinations are corrected.

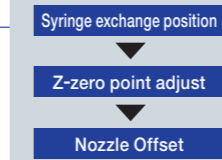
High-precision Peltier-type Temperature control system
PELTIER mini TCU-05MINI



Usability

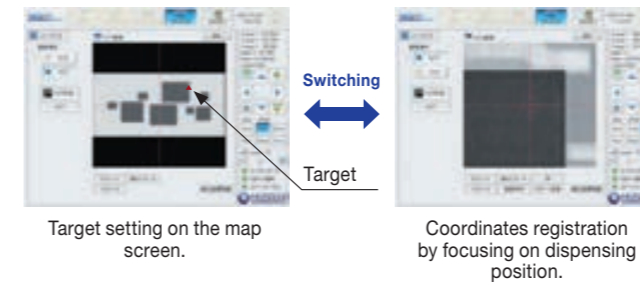
Easy setup

Syringe exchange: Easy setup by just following Wizards.



Camera teaching

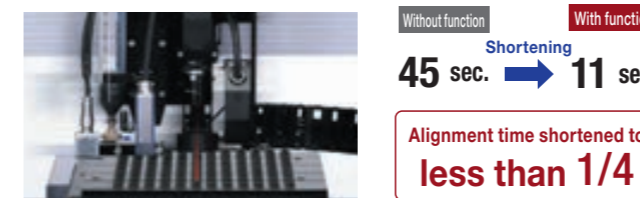
Dispensing start position, points, lines are set by click with the vision of live image of workpieces.



Reduced cycle time

NEW Mu SKY Capture

Image recognition is available while the robot is in motion. Significantly reduces alignment time. Displays alignment results during production operations on the PC screen, enabling real-time pass/fail verification.



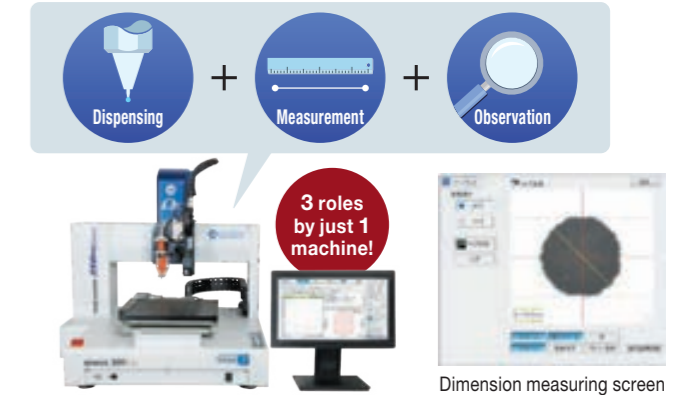
Communication function with Dispensers Option

350PC Smart enables full control of dispenser settings. Pressure, dispensing time, etc. can be set.

*It depends on types of dispensers.

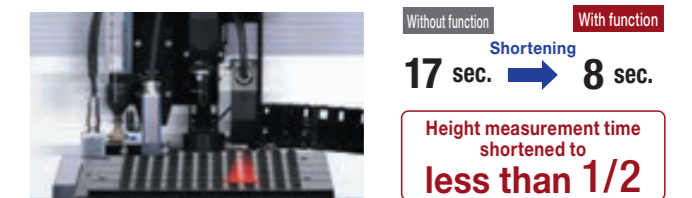
Length measurement/dispensing pattern trace function

It's possible to measure and observe after dispensing.



NEW Mu SKY Sensing

Measurement is available while the robot is in motion. Significantly shortens the height measurement time.



High-quality dispensing

Nozzle cleaning and dummy shot

By removing crawled up materials, materials shape of the nozzle end is kept fixed.



Workbase with workpiece suction Option

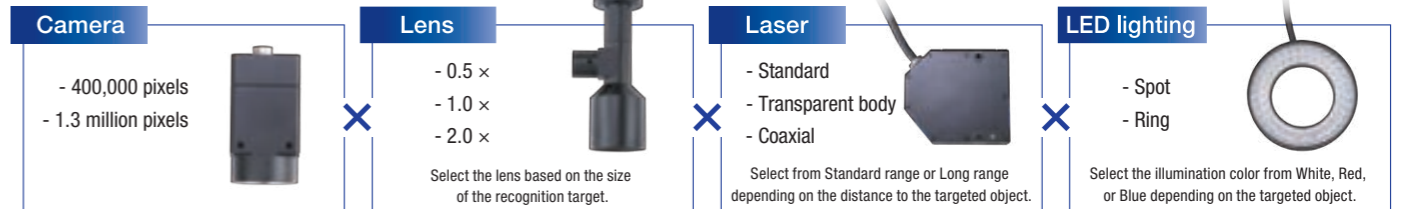
Workpiece suction correct * warpage and prevent workpiece disposition throughout dispensing operation.



Workpieces are fixed by sucking through stage suction holes.

*The effect depends on the workpiece material.

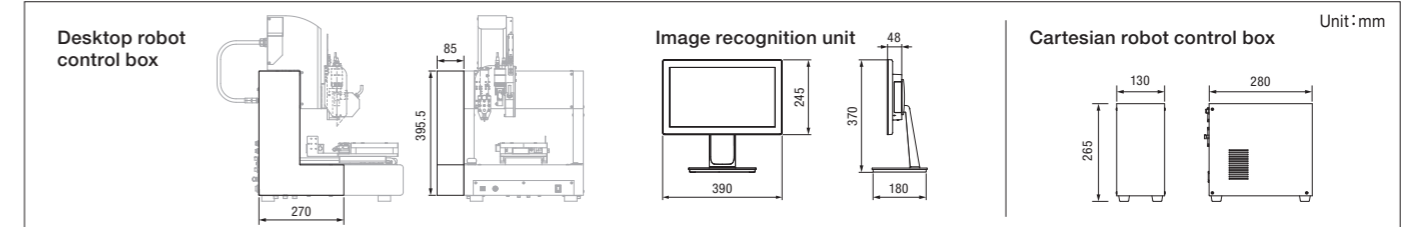
Variety of head options



Useful options

- **Code reading function**
Automatically switch recipes by a barcode or a QR code.
- **Automatic dummy shots function**
Automatic dummy shots during standby period.
- **Rotating table**
The work piece can be rotated and dispensed at a certain angle.
- **Stage temperature control**
Workpieces can be heated.
- **Shape search function**
Corrects rotational disposition of circular parts.
- **2 individual heads function**
2 different dispensers can be applied.

External dimensions



Note: Options may be available for a fee. Please contact our sales department.

+1 axis makes the impossible possible

4-axis desktop robot.

Various applications in accordance with your requirements



It's easy to program / Various heads can be used.

Optional head attachments positioning

Tilt head specification

Adjustable to any angle to suit the workpiece.

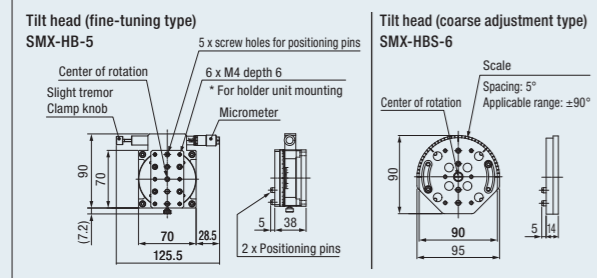


Reinforcement for vibration protection of large capacitors

Model: SM□□□ 3A + tilt bracket

External dimensions

Unit: mm



Dispensing head rotation specification

Capable of dispensing around obstacles and into vertical grooves.

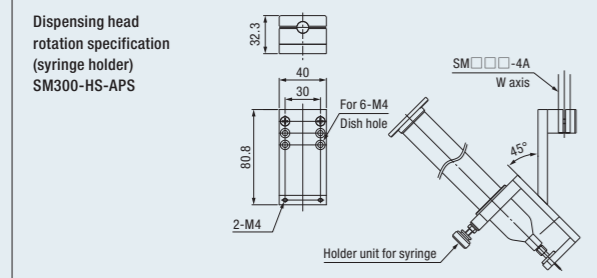


Side dispensing of three-dimensional shapes

Model: SM□□□□ 4A

External dimensions

Unit: mm



Stage mounting options positioning

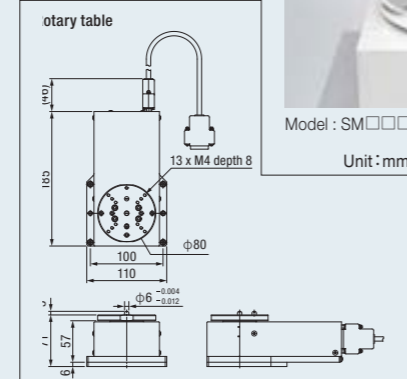
Rotary table

Continuous rotation and angle-specific rotation are possible.



Model: SM□□□□ 3A + rotating unit

External dimensions



Spiral dispensing onto the inner surface of a cylinder

Specifications

Model	SMX-RU-1-MU
Applicable product (robot)	SMQX/SX series (3-axis type only), XMQX/RX/SX series (3-axis type only)
Control system*1	PTP control, interpolation control
Operating range	±9999°
PTP operating speed setting range*2	1 to 400°/s
Interpolation operation speed setting range*2	0.1 to 400°/s
Position Repeatability accuracy*3	±0.01°
Resolution*4	0.036°
Payload capacity*5	40 kg
Rated voltage	DC 24 V (supplied from the robot body)
Power consumption	46 W
Attachment method	SM100/200SX series: Attach to the Y-axis of the robot body or the work base using the SM100/200SX Series Dedicated Bracket (SMX-RU-1-BRFL-1) SM300/400/500SX series, SMQX series: Attach to work base with dedicated bracket (SMX-RU-1-BRFL-1) XMQX/RX/SX series: Directly or using the dedicated bracket (SMX-RU-1-BRFL-1), attach to equipment provided by the customer or other facilities
Material	Material body: aluminum alloy, stainless steel, Outer cover: steel (paint treatment)
External dimensions (excluding protrusions)	W110 x D185 x H57 mm
Weight	1.66 kg
Compliance with standards	EU RoHS2, CE marking (EMCD)

*1 Position-to-Position Control: Control where each specified axis moves to its end point coordinate at its assigned speed. Interpolation Control: Control where each specified axis moves to its end point coordinate at a synthesis rate obtained through interpolation.
 *2 This varies depending on the amount of material loaded, the center of gravity position of the load, and operational conditions.
 *3 Based on our company's specified measurement method (a measurement method conforming to JIS standards).
 *4 This is the theoretical value and may differ from the actual amount of movement.
 *5 When using the rotation unit only, without optional equipment. This varies depending on the set speed, set acceleration/deceleration time, and operation.

Laser welding + Solder dispensing

DISPENSE LASER MASTER



PAT.

New innovation of soldering responding to the needs of various component mountings.

Screw tightening + Threadlocker dispensing



Fast takt time and yield improvement for locking PCB and case.

Pick & Place + Adhesive dispensing



All-in-one system for parts fixing and assembly processes.

UV irradiation + UV adhesive dispensing



High-precision control of UV curing quality.

Dispensing failure inspection + Dispensing



Minimizes production line including inspection function.

Deburring robot



Solves unstable manual process and promote manpower saving.

Evaluation robot



For automation of long-term running tests such as sensitivity and durability evaluation.

Code printing robot



Achieves high-speed and high quality code printing.

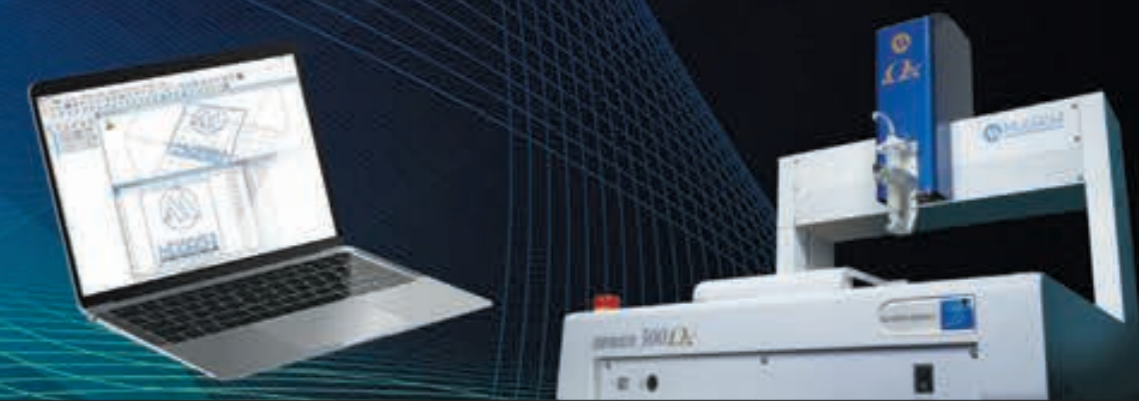
Rotary dispensing system CIRCLE MASTER



One-touch execution of circumferential dispensing. Two types are available: head tilting type and workpiece rotating part tilting type.

Complex dispensing operations can be programmed quickly and intuitively.

MuCAD V PAT.



Intuitive editing of dispensing patterns

Concentration of No.1 dispensing know-how!

- Program command icons that are easy to understand even for beginners.
- Freely apply programming as if it were CAD.
- An application program is automatically generated from DXF data, etc.

Drawing input

Programming by Drawing with mouse dragging

Line

Dotting

Spline

Fill

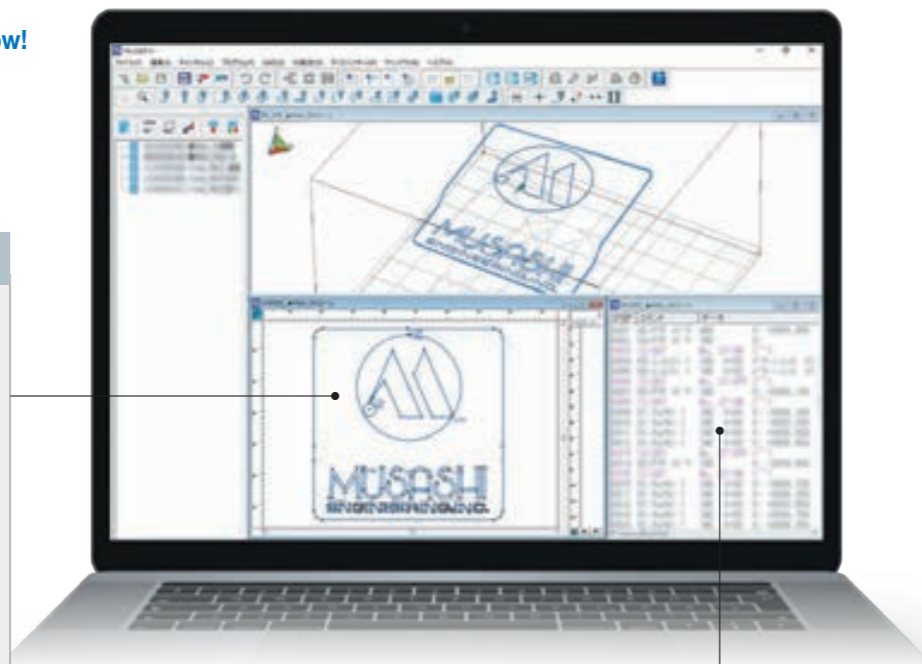
Coating

... and more

Useful functions

Generates staggered array and multiple layout program
Capable of immediately adapting to various work alignments.
Features Duplicate, Rotate, and Flip functions in the dispensing program.

Rotate / Duplicate



Linked

PG

Command input

Create accurate programs by entering values

Automatically generates programs

An application program is automatically generated from Gerber data.

- Program creation from DXF data
- Program creation from coordinate data

Also capable of automatic generation from sources other than Gerber data



Program development process

- 1 Prepare a photo or gerber data of the board.
- 2 Import sketches into the software using the sketch import function.
enabling distortion correction and transparency adjustment.
- 3 Use the mouse to outline the dispensing area and cut out the prohibited dispensing area.
intermediate cut
- 4 Automatic generation even for complex programs

Reduced editing time. Useful functions

Cut out dispensing prohibited areas

Features an intermediate cut dispense function to separate dispensing into dispense areas and prohibited areas.

intermediate cut

Sketch import function

JPEG / BMP

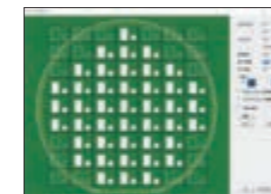
By importing a work photo, that image can be used as a basis for inputting the dispensing pattern.

DXF / Gerber data

The MuCAD drawing tool automatically snaps to graphic data such as DXF and Gerber files.

Pattern generator function

Flexibly configure device arrays on wafers. It contributes to a significant reduction in programming workload.



Freehand drawing input function

Programs can be created intuitively by hand (free line drawings).



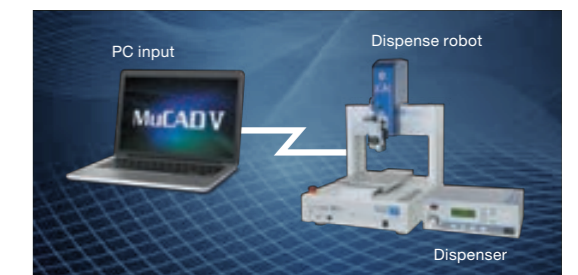
Synchro Speed function PAT.

The line width can be maintained at constant even when moving through a corner.



Operating environment

OS	Windows 11, Windows 10, Windows 8.1
CPU	A 32-bit (x86) or 64-bit (x64) processor with 2GHz or higher
Memory	1 GB or more
Display	XGA (1024 x 768) resolution or higher
Hard disk	100 MB or more of free space
USB port	USB port x 1 (CROSSMASTER QX / RX / SX series, SHOTMASTER QX / SX series)
Serial port	Serial port x 1 (SHOTMASTER Q / DS / DSS series, SHOTMINI 100S-3A-01) • When connecting a dispenser, one additional serial port per unit is required. • USB serial converter can be used.
Supported robots	CROSSMASTER QX / RX / SX series, SHOTMASTER QX / SX series, SHOTMASTER Q / DS / DSS series, SHOTMINI 100S-3A-01



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MUSASHI software consolidated into one



- All software is available for use, including program editing and dispensing condition editing.
- Product updates are provided immediately and free of charge. Always up-to-date.
- Easy download from our website.

Note: A license agreement is required to use this service.

All these software are available!

Dispensing pattern editing

MuCAD V

Screw tightening robot program editing

MuDRIVE

Σ-Specific dispensing conditions edit

MuCOM for Super ΣCM

Dispensing conditions editing

MuCOM lite

3D printing program development support software

3D modeling software

Mu-SLICER



Mu-Slicer is slicing software used to output 3D models on 3D food printers. Simplify the modeling process and provide comprehensive support from loading to modeling with minimal effort.



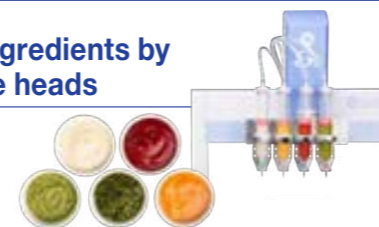
Features

Easy 3-step G-code generation

Simple operation: 1) Load, 2) Set, 3) Execute. Simple operation with streamlined command functions makes size adjustment and rotation easy. Achieve professional-quality results with ease.

Outputs multiple ingredients by supporting multiple heads

It is possible to set food ingredients for each model, exterior wall, and infill.



Infill generation function

Texture and stiffness can be controlled. Available in 20 different infill patterns.



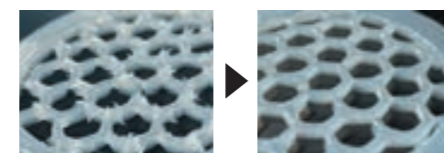
Recipe thumbnail display

Easily print while viewing recipe thumbnails. It allows for switching between the main screen and the kitchen screen.



Smooth finish

Achieve a smooth finish with dispenser manufacturer know-how. It suppresses angular edges and stringing.



Examples of 3D food printer output



Recreating masterful craftsmanship - Candy art



Personalized Meals - Alternative meat



A feast for the eyes and palate - French-style nursing care meals



Arranged creative cuisine - Mashed potatoes

Main setting range

Layer adjustment	Parameters	Range	Contents
Lamination pitch	Minimum	0.1 to 999.9 mm	Thickness of 1 layer : 0.1 to 1.0 mm, 1 to 3 layers : 0.5 mm, 4 to 10 layers: Layer and thickness settings are available in up to five levels, including 0.3 mm.
	Maximum		
Outer wall	Thickness	0.1 to 999.9 mm	Pitch between outer walls × Number of outer wall loops.
	Line width	0.1 to 999.9 mm	Line width of 1 line on the outer wall.
	Number of loops	1 to 9999	Number of laps around the outer wall. (default: 3 laps)
	Pitch between outer walls	0.1 to 999.9 mm	Distance between adjacent outer walls. (Valid when the number of outer wall loops is 2 or more)
Infill (Inside filling)	Line width	0.1 to 999.9 mm	Infill 1 line width.
	Shape	20 patterns	Straight line, wavy line, honeycomb lattice, zigzag, hilbert curve, whirlpool, etc.
Others	Between outer wall and infill	0.1 to 999.9 mm	Distance between outer wall and infill.
	Inter-layer timer	0 to 999.99 s	Wait time after each single-layer dispensing

Operating environment

OS	Windows 11
CPU	2 GHz or faster processor
GPU	OpenGL4.5 or higher
Memory	1 GB or more
Display	XGA (1024 x 768) resolution or higher
Hard disk	100 MB or more of free space
USB port	USB port x 1
Supported robots	CROSSMASTER QX/RX/SX series, SHOTMASTER QX/SX series

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MUSASHI dispensing system is active in various markets from biotechnology to food.

Fully PC controlled multi-channel dispensing system

PIPET MASTER



Multi-channel head for greater processing capacity.

- Suitable for dispensing work in the drug development and biotechnology fields.
- Suitable for consolidating samples.
- Fully automated, from tip mounting to multichannel dispensing.



Ultra-micro-volume reagent spotting system

SPOT MASTER



Automated dispensing of a wide range of reagents!

- Nozzle auto-cleaning function suitable for spotting a wide range of reagents.
- Dedicated software allows pattern editing freely.
- Low running costs as tips not required.



Chemical solution filling and capping system

Chemical solution filling and capping system



Filling to a tube and capping are automated!

- Automated chemical dispensing system with capper system.
- All "cap opening ⇒ filling ⇒ cap closing" procedures consolidated within a single robot.
- Torque control prevents overtightening of caps.
- Available with various dispensers to suit any application.



Automatic filling and weighing system

Automatic filling and weighing system



Enables filling operations and liquid volume management with a single system.

- Real-time acquisition of the liquid agent mass filled within the container.
- Capable of determining OK/NG based on weight discrepancies and managing weighing value logs.
- Supports various container types, layouts, and quantities.



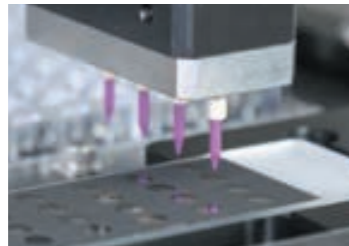
Ultra-high-speed reagent spotting system

JET SPOTTER



Multi-channel heads for suction and “high-speed” spotting!

- Image recognition function allows dispensing with precise positioning.
- Non-contact dispensing prevents cross-contamination.
- Perfect nozzle auto cleaning system method for spot dispensing a wide variety of reagent solution.



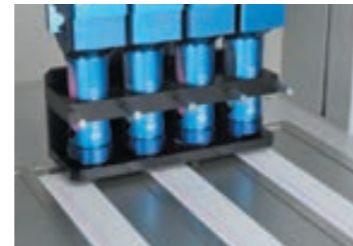
Immuno-chromatographic line dispensing system

Immuno-chromatographic line application system



Ultra-high-speed and stable line dispensing to membrane.

- Reducing dead volume of reagents.
- Non-contact and high-speed reagents line dispensing to membrane.
- Easy maintenance.
- Easy programming by dedicated software.



Powder pipetting and weighing system

POWDER SHOT



Real-time weighing and recording of powders.

- Automatically measures the weight of powder divided into portions within the container.
- Capable of determining OK/NG based on weight deviations and managing weighing value logs.
- Supports various container types, layouts, and quantities.



Volumetric syringe pump pipetting system

SYRINGE PUMP



Automatic filling and extraction of organic solvents and synthetic liquids.

- Syringe pumps enable high-precision pipetting.
- Automates scheduled extraction tasks using dedicated software.
- Ideal for pipetting various low-viscosity materials such as reagents.

Automatic diluting in measuring flask system

System for diluting in measuring cylinder



Automatic alignment during dilution!

- Capable of installing multiple female flasks.
- Easy setup with dedicated software



Pipetting and Dilution System for ICP Analysis Pretreatment

Pipetting and dilution system for ICP analysis pretreatment



Maximize research efficiency!

- Reduces the workload of pipetting and dilution tasks by semi-automating manual operations. Contamination-free.
- Easily set dilution volume and dilution ratio.
- The magazine of the analyzer can be mounted as it is.
- Multiple solvent compatibility achieved through configuration of multiple pumps.



Formulation system

Formulation System



Automatization of liquid and powder compounding processes.

- Handles compounding processes such as Filling, Cap Opening/Closing, Weighing, and Shaking” with a single unit.
- Available for customization to suit the materials and containers in use!
- It can also link with analytical and measuring devices!

In-line enzyme/reagent dropping system

MGD-7500



Highly precise dropping of enzymes/reagents.

- Achieves world-class precision in dropping volume.
- High dropping position accuracy.
- Contributes to stable quality.
- Automatic program generation.

Convincing automatism with high performance and reliability.

All-in-one 3D food printer
3D FOOD MASTER



Easy and convenient! 3D modeling of various food materials

- It enables intricate 3D modeling by combining multiple different ingredients.
- Texture can be adjusted by selecting and adjusting the internal structure.
- No expertise required. Easy programming with touch panel.
- Received the Jury Award at the "FOOMA Awards 2025"

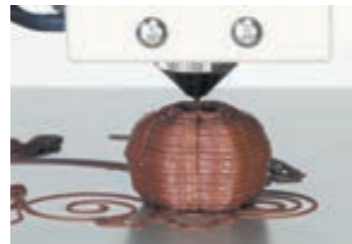


3D Food Printer
3D FOOD DISPENSER



Ornament making in the store!

- Capable of creating three-dimensional ornaments.
- Beautifully renders even complex designs.
- Once a pattern is drawn, it is managed in data.



FOOD grade JET decoration system
CHOCO JET



Direct JET decoration of chocolate.

- Draw directly on uneven foods and plates.
- Make unique designs with images or texts.
- 3D decorations with a height also possible.



Multi-color hand-drawing software
Mu-Sketch



Sketch freely using a touch panel PC!

- Hand-drawn, then robot-drawn!
- Achieve professional-level quality even as a beginner.
- Enables dispensing of dots, lines, and surfaces from a distance.
- It is also possible to trace a rough sketch.
- Create precise patterns as desired with numerical input.



Next Generation Underfill Fully Automatic Dispense Machine
DISPENSMASTER FAD 5700/5700L



Simultaneous 2-head dispensing achieves high productivity.

- Supports cutting-edge semiconductor processes. WLP/PLP/chiplet/heterogeneous chip integration.
- Equipped with Super JET non-contact dispenser.
- Multi-head independent control, automatic dispensing weight correction.
- The latest UI contributing to labor-saving.
- Compatible with PLP 600 mm. (FAD5700L)

Fully automatic, high-productivity dispense machine
DISPENSMASTER FAD 2500W



Dispensing machine that never stops producing.

- Alternating maintenance by two robots. Unstoppable Production. Maintenance of the head is available during production. Minimize idle time. Multiple heads can process simultaneously.
- Reduced downtime due to one-touch head attachment/detachment.
- Equipped with a reliable traceability system for personnel and materials related to the equipment.
- Equipped with a camera for monitoring inside the equipment. Contributes to reducing troubleshooting time.

High-end dispensing machine Compatible with EFEM
DISPENSMASTER FAD 5700-WH



An integrated solution pioneering a new era in wafer processing.

- Remap production and fillet inspection results using wafer array mapping software. (SECS/GEM compliant)
- With EFEM. (Wafer handler support)
- Equipped with wafer mapping function. Flexibly configure device arrays on wafers. Contributes to a significant reduction in programming workload.

General-purpose process, Fully automatic dispense machine
DISPENSMASTER FAD 2500SD



Further evolution of the mainframe, greater freedom in dispenser selection.

- High versatility for a variety of applications.
- Allows for rapid changeovers between production varieties.
- Increased affinity for in-line connections.
- DDM Design: Increased flexibility in dispenser selection.

Dispensing inspection machine
DISPENSMASTER FIS1000



Fully automatic dispense inspection process!!
Completely revamped inspection algorithm.

- Over 100 dispensing inspection items.
- Achieves 2D+3D dispensing inspection.
- NG dispensing unit can be installed. (Optional)

Fully automatic PCB coating machine
COATING MASTER FCD 1200



Stable coating of solvent-diluted and solvent-free liquid agents onto substrates.

- L size + long substrate support. (Maximum 800 mm)
- No need to create dispensing programs!
Features a Bird's Eye View function that enables immediate production upon workpiece insertion.
- No masking required—effortlessly control coating from large areas to spot applications.

Fully automated seal dispensing machine
MLC-6500



Large-format, 20 t class machine bringing the world's fastest sealant dispensing with sub-micron precision.

- High-speed and high-precision sealant dispensing on large-sized substrates.
- Remarkable improvement of productivity achieved by world's fastest, high-stability, and high-definition drawing capability.
- MUSASHI's world-level original
- Automatic non-contact gap control mechanism.
- World's fastest dispensing shape measuring function.



Fully automated ODF machine
MLC-7500



Applicable to eighth generation ultra-precision high-speed ODF system with high stability.

- World's best LC drop dispensing head mounted.
- Drastically improved productivity by multi-head compatibility.
- Simple operations for setting drop pattern and volume.
- High-speed and high-precision LC drop dispensing with high stability thanks to high-performance dispensing head.
- Improved dispensing speed more than 3-fold. (compared to industry standard)



Vacuum chamber system dispensing machine
DISPENSMASTER MBC-V SERIES



New proposal for cutting-edge processes, the ultimate void-free solution.

- Achieves high-precision, stable dispensing under reduced pressure.
- Prevent large-scale defects before occurrence.
- Proposal for an automatic dispensing line utilizing cutting-edge processes.

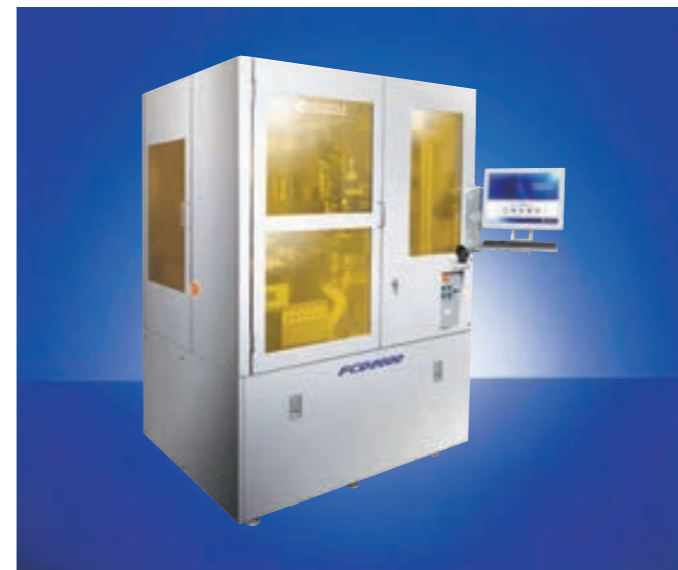
Fully automated compact dispensing machine
SMART ROBO TAD 1000M



High-space performance that brings innovation to the production floor.

- Ultra-compact size contributing to labor-saving and lower space costs
- Wide range of options available for reliable, high-quality dispensing. Significant reduction of defective products.
- Easy-to-use operations for any user

Fully automated wafer coating machine
FCD 2000



Achieves ultra-thin coating.

- Major reduction in material waste by unique film formation method.
- Can be used with inline layouts.
- Available for use with wafers up to 12" in size, and under 100 μm thickness.

inkJET High precision dispensing system
LABO DISPENSE MASTER MIJ 1000



Verification is available from R&D through to mass-production prototyping.

- ATop-class dropping volume accuracy. Achieves stable dispensing through proprietary inkJET technology.
- Camera-based dispensing position correction available.
- Support for diverse work types.
- Capable of providing dispensing volume feedback through standard-equipped weighing device.
- Automatically generate dispensing programs.

High-precision, high-quality parts that incorporate MUSASHI's dispensing know-how

Syringes and accessories

PAT.



① High-precision syringes, specially designed for dispensing

High-precision dispensing is realized by constant internal syringe diameter, excellent fluid characteristic and high pressure resistant construction.

- Clear syringe
High precision dispensing: PSY-[E/F] series
- UV block syringe
Complete UV protection: PSY-[EU/FU]-OR series
- Color syringe
Color type: PSY-[E/F]-PG series
- Heat-resistant syringe
Heatproof: PSY-[FH/FH2]-P series
- Antistatic syringe
Anti-static: PSY-E-SEP series
- Stainless syringe
High temperature and pressure protection: SSY-E series

② Adapter tube (with stopper)

Tubes to supply air pressure by connecting a dispenser and a syringe.

- Adapter tube
Standard type: AT-E-H series
- Side connection adapter tube
Side connection type: AT-E-H-S series
- Antistatic adapter tube
Anti-static: AT-E-H-SEP series
- Stainless adapter tube
High temperature and pressure protection: AT-E-SUS series

③ High-precision plunger (PAT.)

High-precision dispensing is achieved with excellent wiping performance. 4-type lineup in accordance with fluid characteristics and applications.

- Float Wiper Plunger
High precision dispensers: FLP-E series
- Shuttle-type plunger
Ag paste, solder paste : TPP-E series
- Miracle wiper plunger (blue)(red)
Emphasizes scraping of fluid : MLP-B/R-E series
- Miracle wiper plunger (white)
Focus on sealing : MLP-E series

④ Syringe head cap/⑤ Syringe tip cap

Caps to seal the top and bottom of syringes. Three types are available: For general material, UV material and heat-resistant material.

⑥ Protective cap for syringe tip

Protects syringe tips while wearing needle caps.

⑦ O-ring (for tube adapter)

A replacement ring for adapter tubes. Select a suitable O-ring from among four kinds of materials according to the characteristics of fluid for dispensing.

- Fluororubber
- Silicone rubber
- NBR
- Perfluoroelastomer

Safety information → P89

Needles and nozzles

PAT.



Metal needle SNA series metal needle

An excellent durability SUS needle is used.

- Needle length: 13 mm (Type B)
- Needle length: 15 mm (Type C)
- Thin metal needles are also available.



Super-fine nozzle FN series

Capability of ultra-small volume dispensing and ultra-fine drawing as tiny as some micrometers in diameter.



Plastic needle PN series plastic needles

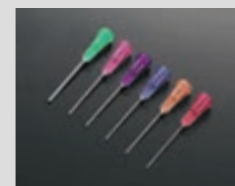
Economical, disposable plastic needles.

- Needle length: 8 mm (Type A)
- Needle length: 13 mm (Type B)



Sharp needle SPN series

High-precision tapered shape of needle tip enables micro-dispensing. Double thread screw design allows the needle to be installed securely on the syringe.



Double thread screwed plastic needle DPN series

Safe and secure attachment into a syringe with double thread screwed needle design

- Needle length: 6.4 mm
- Needle length: 12.7 mm
- Needle length: 25.4 mm
- Needle length: 38.1 mm



Double thread screw tapered nozzle TPND series

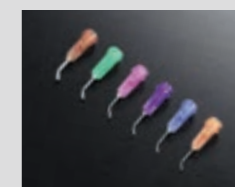
Compatible with UV materials. Best suited for high viscosity materials.



PTFE nozzle TN series PTFE nozzles

Excellent in corrosion resistance and suitable for dispensing anaerobic materials.

- Needle length: 8 mm
- UV material-compatible nozzles are also available.



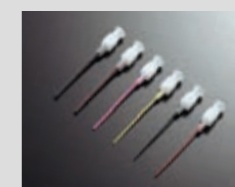
Curve needle CPN series

Best suited for dispensing to the inner surface of a workpiece. Bending processing with excellent flowability implements stable dispensing.



UV-block PTFE nozzle TN-U series

Compatible with UV materials. Ideal for dispensing anaerobic fluid materials. Needle length can be specified.



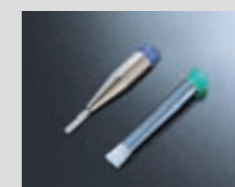
Soft needle PPN series

Soft and flexible needle prevents damage to workpieces and reduces a fraction defective.



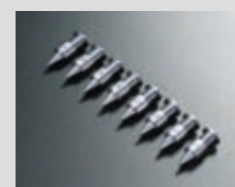
PTFE nozzles with SUS guide

Used for precision dispensing of anaerobic materials. The SUS guide prevents vibration in the needle tip. Ultrafine type is also available.



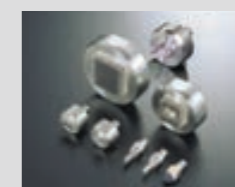
Brush nozzle BN series

Surface dispensing efficiency remarkably improved



Precision solid nozzle SHN series

Stable microscopic dispensing with integrated precision nozzle.



Multi nozzle MN series

Suitable for multi-point dispensing with one shot.



Double thread screw precision solid nozzle DSHN series

Double thread screw design allows the needle to be installed securely on the syringe. More, not clogging, micro dispensing is possible.

Note: We can design and supply specialty items, such as bending nozzles and forked nozzles that match your dispensing conditions and materials.

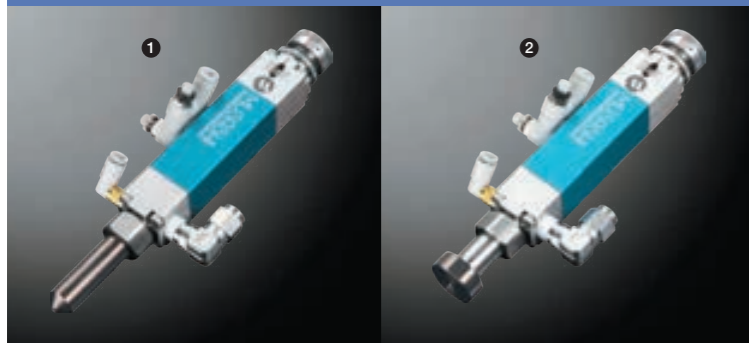
Safety information → P89

Fluid metering dispensing valve



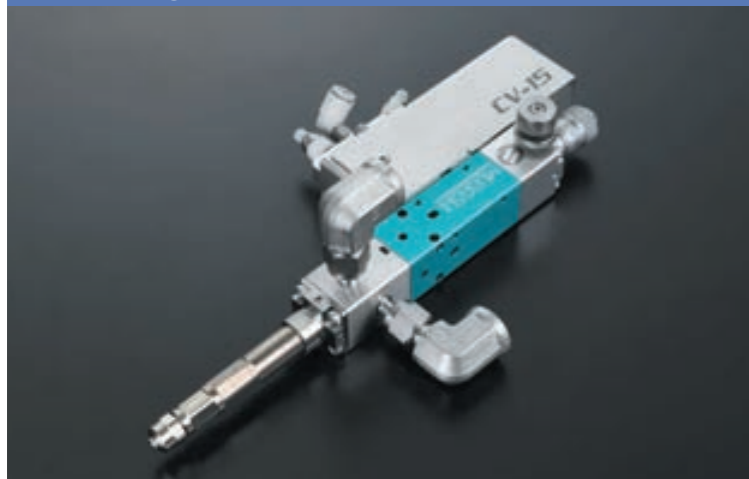
- 1 Needle control valve NCV-17**
 - Optimal for precise dispensing of small quantities of liquid agents containing UV and fillers.
 - Achieves excellent liquid drainage.
 - Reduces air bubble inclusion.
- 2 Piston control valve PCV-12**
 - Prevents dripping and pooling through a suction-back mechanism.
 - Prevents liquid ingress into sliding parts through a diaphragm structure.
 - Square shape, compact size, and lightweight design make it optimal for automatic machine integration.
- 3 Volumetric metering dispensing valve PPV-5**
 - Plunger pump valve with superior sealing performance achieved through a unique mechanism.
 - Possesses excellent corrosion resistance, achieving high-precision stable dispensing regardless of temperature changes in liquid materials.
- 4 High-pressure needle control valve HPV-2NC**
 - For high-viscosity materials only.
 - Prevents leakage of liquid materials with a unique high-pressure-resistant design.
- 5 Diaphragm valve DCV-2 (solenoid type)**
- 6 DCV-3 (pneumatic type)**
 - Diaphragm valve optimal for micro-dispensing low-viscosity, anaerobic liquid materials.
 - All wetted parts are made of fluoroplastic, enabling micro-discharge of highly corrosive materials.

Two-fluid spray valve



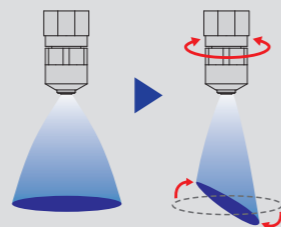
- 1 Two-fluid shape spray valve SSV-1**
 - Thin-film spray coating for medium to high viscosity materials.
 - Achieves thin-film dispensing using a dedicated nozzle.
 - The orientation of the thin film can be freely changed.
 - Compatible with the circulation system. Dispensing quality improved.
- 2 Two-fluid fine spray valve FSV-1**
 - Uniform, wide-area film dispensing.
 - Low-pressure atomization prevents spray dispersion.
 - The unique one-touch switching mechanism allows adjustment of the dispensing pattern from spot to wide.

Coating valves



- CV-15**
 - Circulation-compatible. Stable coating quality.
 - Achieves thin-film dispensing using a dedicated nozzle.
 - The orientation of the thin film can be freely changed.
 - Compatible with the circulation system. Dispensing quality improved.

After attaching the nozzle, it can be manually adjusted to change its direction. Easy application fine-tuning.



Fluid feed tank



- 1 Safety lock tank**
 - Our proprietary tank featuring high versatility and safety-focused design.
 - Suitable for a wide range of applications from low viscosity to high viscosity liquid materials.
 - Large aperture for easy installation of agitation, etc.
 - Compatible with both direct liquid material feed and container-type systems.
- 2 Straight one-touch tank**
 - The tank interior features a straight opening and a flat bottom design, allowing purchased liquid agents in their original containers to be poured directly inside.
 - One-touch clamp design for easy lid opening and closing.
 - Compatible with our various valves for a wide range of applications.
- 3 One-touch tank**
 - Clamp type for easy opening and closing of the lid.
 - Suitable for a wide range of applications from low viscosity to high viscosity liquid materials.
 - Tank for direct liquid material input.
- 4 Gallon tank**
 - A simple tank designed exclusively for direct liquid material input.
 - Optimal for low-pressure feed of low- to medium-viscosity liquid materials.
 - Lightweight design for easy transport.
 - Safety design that prevents the lid from being opened during pressurization.

Pail pressure feed pump



- Dispensing system compatible pail pressure feed pump LPP-1**
- A new pressure feed pump for dispensing applications has been developed.
- Reduced frequency of liquid material replacement by increasing the size of liquid material supply containers. It is possible to reduce the unit price per gram for purchasing liquid materials.
 - Support from pre-implementation verification and evaluation through to system construction.
 - We provide comprehensive, end-to-end support for customer-led setup and adjustments, as well as troubleshooting during abnormal occurrences.
 - Thoughtful design that puts users first.

Example of dispenser connection



Model index (Alphabetical order)

A

	Model	Page	Item name
AT-	AT-□E	82	ADAPTER TUBE [1/100ML]
	AT-□E-H-1.0M	82	ADAPTER TUBE [WITH STOPPER 03/05/10/20-70ML 1.0M]
	AT-□E-H-S-1.0M	82	SIDE CONNECTION ADAPTER TUBE [WITH STOPPER 05/10/20-70ML 1.0M]
	AT-□E-H-SEP-1.0M	82	ANTISTATIC ADAPTER TUBE [WITH STOPPER 10/20-70ML 1.0M]
	AT-□E-SUS-1.0M	82	STAINLESS ADAPTER TUBE [WITH STOPPER 03/05/30-50ML 1.0M]
AW-	AW-[20/50]-3	55	SYRINGE CENTRIFUGAL BUBBLE ELIMINATOR AWATRON3 [1-20/1-50ML]
	AW-[20/50]-3-220V	55	SYRINGE CENTRIFUGAL BUBBLE ELIMINATOR AWATRON3 [1-20/1-50ML AC220/230V]

B

	Model	Page	Item name
BC-	BC-4	57	BARREL HEAD CAP [TYPE 4]
	BC-4U-B	57	UV BLOCK BARREL HEAD CAP [TYPE 4]
BN-	BN-S□	83	BRUSH NOZZLE [STANDARD/SOFT TYPE 2/4.5PHI]
BP-	BP-4	57	BARREL TIP CAP [TYPE 4]
	BP-4U-B	57	UV BLOCK BARREL TIP CAP [TYPE 4]

C

	Model	Page	Item name
CC-	CC-P-001-[1/2]	57,59	CARTRIDGE CAP [WITHOUT HOOK/WITH HOOK]
CCM-	CCM-[3H/3T]	71	ROTATING DISPENSER CIRCLE MASTER [HEAD TILTING TYPE/WORK TILTING TYPE]
CH-	CH-[100/170/230/340]C	57,59	CARTRIDGE HOLDER [100/170/340ML BARREL USE/230ML TUBE]
	CH-170CT	59	CARTRIDGE HOLDER [170ML TUBE USE]
CPN-	CPN-□G-[A45/A90/B45]	83	CURVE NEEDLE [14/15/18/20/21/22/23/25/27/30G NEEDLE LENGTH 12.7MM ANGLE45/12.7MM ANGLE90/38.1MM ANGLE45]BODY: PLASTIC
CS-	CS-□C	57	BARREL CARTRIDGE [100/170/340ML]
	CS-□C-HK	57	BARREL CARTRIDGE [100/170/340ML WITH HOOK]
	CS-[170/230]CT	59	TUBE CARTRIDGE [100/200G]
	CS-[170/230]CT-HK	59	TUBE CARTRIDGE [100/200G WITH HOOK]
	CS-[170/230]CT-TD	59	TUBE CARTRIDGE [100/200G TYPE TD]
	CS-[170/230]CT-TD-HK	59	TUBE CARTRIDGE [100/200G TYPE TD WITH HOOK]
CV-	CS-P-001-1A	57	ORING RECEIVER [CARTRIDGE CAP USE]
	CV-15-EM-1N	84	COATING VALVE [TYPE 15 LIQUID FEED ON RIGHT]

D

	Model	Page	Item name
DCV-	DCV-2-VT	84	DIAPHRAGM VALVE [ELECTROMAGNETIC TYPE]
	DCV-3	84	DIAPHRAGM VALVE [PNEUMATIC TYPE]
DPN-	DPN-□G-[1/2/3]	83	DOUBLE THREAD SCREWED PLASTIC NEEDLE [14/15/18/20/21/22/23/25/27/30/32G NEEDLE LENGTH 12.7/25.4/38.1MM]
	DPN-32G-0	83	DOUBLE THREAD SCREWED PLASTIC NEEDLE [32G NEEDLE LENGTH6.4MM]
DSHN-	DSHN-M2-□F	83	DOUBLE THREAD SCREW PRECISION SOLID NOZZLE [FINE TYPE ID 0.10/0.15/0.20/0.25/0.30MM]

F

	Model	Page	Item name
FAD	FAD2500SD	79	FULLY AUTOMATED MULTI-PURPOSE DISPENSING MACHINE DISPENS MASTER
	FAD2500W	79	FULLY AUTOMATIC HIGH PRODUCTIVITY DISPENSE MACHINE DISPENS MASTER
	FAD5700/FAD5700L	79	NEXT GENERATION UNDERFILL FULLY AUTOMATED DISPENSER SYSTEM DISPENS MASTER
	FAD5700-WH	79	EFEM COMPATIBLE HIGH-END DISPENSING MACHINE DISPENS MASTER
FCD	FCD1200	79	FULLY AUTOMATED COATING MACHINE COATING MASTER
	FCD2000	81	FULLY AUTOMATED WAFER COATING MACHINE
FIS	FIS1000	79	DIPENSING QUALITY INSPECTION MACHINE DISPENS MASTER
FLP-	FLP-□E	82	FLOAT WIPER PLUNGER [1/3/5/10/20/30/50/70/100ML YELLOW]
FN-	FN-□[N/ND]	83	SUPER FINE NOZZLE [ID0.02/0.03/0.04/0.05/0.10/0.15/0.20/0.25/0.30/0.40/0.50/0.60MM LUER LOCK/DOUBLE THREAD SCREWED]*
	FN-□[N/ND]-F	83	SUPER FINE NOZZLE TIP THICK 15MICROMETER [ID0.02/0.03/0.04/0.05/0.10/0.15/0.20/0.25/0.30/0.40/0.50/0.60MM LUER LOCK/2THREADSCREW]*
FSV-	FSV-1-1P-1N	84	FINE SPRAY VALVE MINIVAL [TYPE 1 1 PORT]

G

	Model	Page	Item name
GAT-	GAT- [3/ 5]G	85	GALLON TANK [3/5 GALLONS]
GC-	GC-1	82	PROTECTIVE CAP FOR SYRINGE TIP [E TYPE]

H

	Model	Page	Item name
HC-	HC-[□EU/□U]-B	82	SYRINGE HEAD CAP [3/5/10/20/30/50ML UV TYPE BLACK]
	HC-[1E-H/□E/□C]	82	SYRINGE HEAD CAP [1ML HTYPE/3/5/10/20/30/50/70/100ML]
HM-	HM-MSD	35	HOTMELT MSD [SYRINGE/CARTRIDGE TYPE]
HPV-	HPV-2NC-2P	84	HIGH PRESSURE CORRESPONDING NEEDLE CONTROL VALVE [20MPa 2NC TYPE 2PORTS]

L

	Model	Page	Item name
LPP-	LPP-1	85	LIQUID PRESSURE PUMP LPP-1
LS-	LS-NH3-1604P	37	DISPENSER PEN [LS-NH3 TYPE 16 4PIN]

M

	Model	Page	Item name
M	M34-2373	35	HIGH-PERFORMANCE SCREW DISPENSER SCREWMASTER [FOR HIGH-VISCOSITY THERMAL GREASE]

	Model	Page	Item name
MB-	MB-[100/170/340]C-01	54	MIXING BLOCK [100/170/340ML BARREL USE]
	MB-[5/10/20/30/50/70]E-02	54	MIXING BLOCK [5/10/20/30/50/70ML SYRINGE USE]
	MB-MJETC2-3070	25,54	MIXING BLOCK [30/50/70ML CYBERJET 2]
MBC-	MBC-V SERIES	80	DISPENSING SYSTEM IN VACUUM CHAMBER DISPENS MASTER
MJ	MJ1000	81	INK JET , HIGH PRECISION DISPENSING SYSTEM LABO DISPENSE MASTER
MJET-	MJET-A-2	24	NON-CONTACT JET DISPENSER AEROJET
	MJET-C-2	25	NON-CONTACT JET DISPENSER CYBERJET2
MJET-	MJET-H-2	20	ULTRA-FINE NON-CONTACT JET DISPENSER HYPERJET2
	MJET-S-3-HS-HU-L/M	22,23	SUPERJET3 HI SPEED HEAD UNIT [TYPE L/M]
	MJET-S-3-HP-HU-L/M	22,23	SUPERJET3 HI POWER HEAD UNIT [TYPE L/M]
	MJET-S-CTR-RM-3	23	HEAD CONTROLLER [TYPE 3, RACK MOUNT TYPE]
	MJET-S-HM	25	NON-CONTACT JET DISPENSER HOTMELT SUPERJET
ML-	ML-6000X-[GP/VHR]	50,51	HIGH PRECISION DIGITAL DISPENSER ML-6000X [GENERAL PURPOSE / VACUUM HIGH RESOLUTION]
	ML-6000XP-V5-[GP/VHR]	50,51	HIGH PRECISION DIGITAL DISPENSER ML-6000X PRO [V5 GENERAL PURPOSE / VACUUM HIGH RESOLUTION]
	ML-6000XP-V2-[GP/VHR]	50,51	HIGH PRECISION DIGITAL DISPENSER ML-6000X PRO [V2 GENERAL PURPOSE / VACUUM HIGH RESOLUTION]
	ML-7000X-CTR-[V2/V5]-[N/P]	48,49	HIGH PRECISION DIGITAL DISPENSER ML-7000X [V2/V5]
MLC-	ML-8000X-[V2/V7]	46,47	HIGH PRECISION DIGITAL DISPENSER WITH UPPER-LEVEL COMMUNICATION SUPPORT ML-8000X [V2/V7]
	MLC-6500	81	FULLY AUTOMATED SEAL DISPENSING MACHINE
MLC-	MLC-7500	81	FULLY AUTOMATED ODF MACHINE
	MLP-□E	82	MIRACLE WIPER PLUNGER [5/10/20/30/50/70ML WHITE]
MLP-	MLP-B-□E	82	MIRACLE WIPER PLUNGER [5/10/20/30/50ML BLUE]
	MLP-R-□E	82	MIRACLE WIPER PLUNGER [5/10/20/30/50ML RED]
MN	MN□	83	MULTI NOZZLE
MPP-	MPP-1	26,27	VOLUME MEASURING TYPE DIGITAL CONTROL DISPENSER MEASURING MASTER
	MPP-5-CTR	26,27	MEASURING MASTER MPP-5 DISPENSE CONTROLLER
	MPP-5-S	26,27	VOLUME MEASURING TYPE DIGITAL CONTROL DISPENSER MEASURING MASTER MPP-5 [TYPE S FOR SYRINGE/ FOR SYRINGE TEMP.CONTROL/TANK CONNECTION/ TYPE S FOR CARTRIDGE]
MPP-	MPP-5-M	26,27	VOLUME MEASURING TYPE DIGITAL CONTROL DISPENSER MEASURING MASTER MPP-5 [TYPE M]
	MS-	MS-1-CTR	51
MSD-	MS-1D-CTR	51	DISPENSING INSPECTION MACHINE FOR INLINE PRODUCTION SMART ROBO MS-1D [PRESSURE DIGITAL DISPLAY]
	MSD-3-2SE-CTR	33	SCREW HEAD DISPENSE CONTROLLER [MSD-3 2SE]
	MSD-3-2SE-HF	34	HIGH-PERFORMANCE SCREW DISPENSER SCREWMASTER3 [MSD3 TYPE HIGH FLOW]
	MSD-3-2SE-SET1	34	HIGH-PERFORMANCE SCREW DISPENSER SCREWMASTER3 [TYPE 2SE FOR 5/70ML SYRINGE]
MSD-	MSD-3-2SE-SET2	34	HIGH-PERFORMANCE SCREW DISPENSER SCREWMASTER3 [TYPE 2SE FOR 5/50ML SYRINGE TEMPERATURE CONTROLLER]
	MSD-3-2SE-SET3	34	HIGH-PERFORMANCE SCREW DISPENSER SCREWMASTER3 [TYPE 2SE FOR BARREL CARTRIDGE]
MT-	MT-410	36,37	ROTARY TUBING DISPENSER
MU	MUCADBOOK	73	MUSASHI ORIGINAL SOFTWARE MUCAD BOOK
	MUCADV	72,73	MUCADV DISPENSE EDITING SOFTWARE
	MUCOM-SIGMACM	42	MUCOM FOR SUPER SIGMA [VER.1.0] DISPENSE PATTERN EDITING SOFTWARE
	MUSLICER	74	3D PRINTING SOFTWARE MUSLICER

N

	Model	Page	Item name
NC-	NC-3E	82	SYRINGE TIP CAP [DOUBLE THREAD SCREWED LONG TRANSPARENT]
	NC-3EU-B	82	SYRINGE TIP CAP [DOUBLE THREAD SCREWED UV TYPE]
	NC-3FH	82	HEAT-RESISTANT SYRINGE TIP CAP
	NC-5E	82	SYRINGE TIP CAP [LUER LOCK KNURLED HARD WHITE]
	NC-7E	82	SYRINGE TIP CAP [DOUBLE THREAD SCREWED KNURLED BLUE]
	NC-7EU-B	82	SYRINGE TIP CAP [DOUBLE THREAD SCREWED KNURLED UV TYPE BLACK]
NCV-1	NCV-17-1P-1N	84	NEEDLE CONTROL VALVE [TYPE 17 1PORT]

O

	Model	Page	Item name
ORG-	ORG-□-N-B-[1/2]	82	ORING [PHI 1.5/6/9/11/18/24 MATERIAL N COLOR B #1/2]
	ORG-□-P-B-1	82	ORING [PHI 1.5/6/9/11/18/24 MATERIAL P COLOR B #1]
	ORG-□-S-R-1	82	ORING [PHI 1.5/6/9/11/18/24 MATERIAL S COLOR R #1]
	ORG-□-V-B-1	57,58,59,82	ORING [PHI 1.5/6/8/9/11/12/14/16/18/20/24/34/42 MATERIAL V COLOR B #1]
OTT-	OTT-□L	85	ONE TOUCH TANK [1/2/3/5/10/20/30L]

P

	Model	Page	Item name
P-	P-NADP-[11/12/13]	57,58	NEEDLE ADAPTER [No.11/12/13]
	P-LADP-1	59	LUER LOCK ADAPTER [NO.1]
	P-PKG-[15/23/46]	58	PACKING [NO.15/23]
	P-SCW-[2/17]	57,58	SCREW [NO.2/17]
	P-SSP-1	57,58	SEAL SPRING [CARTRIDGE CAP USE]
	P-TADP-[2/3]	59	TUBE ADAPTER [NO.2/3]
PB-	PB-[100B/170C/340C]	57	BARREL [100ML B TYPE/170ML TYPE C/340ML TYPE C]
	PB-[170/230]BT	59	TUBE CARTRIDGE BARREL [170/230ML]
	PB-[170/340]CU-OR	57	UV BLOCK BARREL [170/340ML TYPE C]
PCV-	PCV-12-2P	84	PISTON CONTROL VALVE [TYPE 12 2PORT]
PN-	PN-□G-[A/B]	83	PLASTIC NEEDLE [15/16/17/18/19/20/21/22/23/24/25/26/27G NEEDLE LENGTH 8/13MM]
PP-	PP-[W1/B1]	57	BARREL PLUNGER [TYPE B1/W1]
PPN-	PPN-□G	83	SOFT NEEDLE [15/16/18/20/22/25G NEEDLE LENGTH 35.9MM] RESIN NOZZLE
PPV-	PPV-5-2P-SUS	84	PLUNGER PUMP VALVE [TYPE 5 2PORT SUS]
PSY-	PSY-[1E2/□E/□F]-M	82	CLEAR SYRINGE [1/3/5/10/20/30/50/70ML WITH GRADUATIONS]
	PSY-□E/[F]	82	CLEAR SYRINGE [3/5/10/20/30/50/70/100ML]

	Model	Page	Item name
PSY-	PSY-□[E/F]-PG	82	COLOR SYRINGE [5/10/20/30/50ML PEPPERMINT GREEN]
	PSY-□[EU/FU]-OR	82	UV BLOCK SYRINGE [3/5/10/20/30/50/70/100ML]
	PSY-□[EU/FU]-OR-M	82	UV BLOCK SYRINGE [3/5/10/20/30/50/70ML WITH GRADUATIONS]
	PSY-□E-SEP	82	ANTI STATIC SYRINGE [10/30/50ML]
	PSY-30[FH/FH2]-P	82	HEAT-RESISTANT SYRINGE [30ML F/F2 TYPE GRADE P]

Q

	Model	Page	Item name
QP-	QP-1B	57	PNEUMATIC QUICK JOINT [PLUG R1/8]

R

	Model	Page	Item name
RMU-	RMU-02	25,54	MIXING CONTROLLER MIX MASTER

S

	Model	Page	Item name
SCS-	SCS-330	58	SEALANT CARTRIDGE [WITHOUT HOOK]
	SCS-330-HK	58	SEALANT CARTRIDGE [WITH HOOK]
	SCS-P-001-[1/2]	58	CARTRIDGE CAP [WITHOUT HOOK/WITH HOOK]
	SCS-P-001-1C	57,58	SEAL RETAINER [CARTRIDGE CAP USE]
	SCS-P-002-1	58	CARTRIDGE HOLDER [FOR SEALANT]
	SCS-P-004-[1/3/4/5/6/7/8]	58	TIP ADAPTER [TB/S/TS/TR/MI/MO/C TYPE]
SHN-	SHN-□N	83	PRECISION SOLID NOZZLE [ID0.1/0.15/0.2/0.25/0.3/0.35/0.4/0.45/0.5/0.6MM]
	SM100SX-3A-SS	62	DESKTOP ROBOT SHOTMINI 100SX
SM	SM2000MEGAX-[3A/4A]-SS	63	DESKTOP ROBOT SHOTMINI 200 OMEGAX
	SM200SX-[3A-SS-01/4A-SS]	62	DESKTOP ROBOT SHOTMINI 200SX
	SM3000MEGAX-[3A/4A]-SS	63	DESKTOP ROBOT SHOTMASTER 300 OMEGAX
	SM300SX-[3A/4A]-SS	62	DESKTOP ROBOT SHOTMASTER 300SX
	SM4000MEGAX-[3A/4A]-SS	63	DESKTOP ROBOT SHOTMASTER 400 OMEGAX
	SM400SX-[3A/4A]-SS	62	DESKTOP ROBOT SHOTMASTER 400SX
	SM5000MEGAX-[3A/4A]-SS	63	DESKTOP ROBOT SHOTMASTER 500 OMEGAX
	SM500SX-[3A/4A]-SS	62	DESKTOP ROBOT SHOTMASTER 500SX
SMP-	SMP-2	30,31	ULTRA-SMALL DOSAGE DISPENSER NANO MASTER SMP-II
	SMP-3-[30/50]	30,31	ULTRA-SMALL DOSAGE DISPENSER NANO MASTER SMP-III [30ML TYPE/50ML TYPE]
	SMP-MS	30,31	ULTRA-SMALL DOSAGE DISPENSER NANO MASTER SMP-MS
SMX-	SMX-RU-1-MU	70	ROTARY UNIT [TYPE 1]
	SNA-	SNA-□G-IB/C	83
SNA-□N-[4/6]L-F		83	THIN-WALLED METAL NEEDLE [SNA ID0.10/0.20/0.30MM NEEDLE LENGTH4/6MM]
SPN-	SPN-□-□L	83	SHARP NEEDLE[ID0.12MM NEEDLE LENGTH 6.5MM/ID0.17MM NEEDLE LENGTH 9.5MM/ID0.25MM NEEDLE LENGTH 12.7MM/ID0.33MM NEEDLE LENGTH 12.7MM/ID0.41MM NEEDLE LENGTH 38.1MM/ID0.58MM NEEDLE LENGTH 38.1MM/ID0.84MM NEEDLE LENGTH 12.7MM] BODY: PLASTIC
S-	SUPER-SIGMA-CM4-[V2/V5]	45	FULLY DIGITAL CONTROLLED DISPENSER SUPERSIGMACMIV-[V2/V5]
	SUPER-SIGMA-CM4P-[V05/V2/V7]	42,43,44	FULLY DIGITAL CONTROLLED DISPENSER SUPERSIGMACMIV PRO [V05/V2/V7]
SOT-	SOT-□L	85	STRAIGHT ONE TOUCH TANK [4.6/5.6/6.3/12.7/21.3L]
SST-	SST-□L	85	TANK FOR SAFETY LOCK [1.7/2.2/5.5/6.2/12.7/20.3/38.5L]
SSV-	SSV-1-1P-1N-□	84	SHAPE SPRAY VALVE MINIVAL [TYPE 1 1 PORT [ST/TP][0.4/0.8/1.2]]
SSY-	SSY-□[B/E]	82	STAINLESS SYRINGE [1/3/5/10/30/50ML]

T

	Model	Page	Item name
TAD	TAD1000M	80	FULLY AUTOMATED COMPACT DISPENSING MACHINE SMART ROBO
TBT-	TBT-SY[05/10/20/30/5055][M/MW]-K-1-Z3	53	TEMPERATURE CONTROL BLOCK [HEATING TYPE 5/10/20/30/50/55ML SYRINGE TYPE W/ M/W 1 TYPE Z3 TYPE]
	TBP-SY[05/10/20/30/5055][M/MW]-A-[L/R]-1/2	53	TEMPERATURE CONTROL BLOCK [AIR TYPE PELTIER RIGHT/LEFT 5/10/20/30/50/55ML SYRINGE TYPE M/M/W 1/2 TYPE]
TBP-	TBP-SY[05/10/20/30/5055][M/MW]-F-1/2	53	TEMPERATURE CONTROL BLOCK [FAN TYPE PELTIER 5/10/20/30/50/55ML SYRINGE TYPE M/M/W 1/2 TYPE]
	TCU-Q2-MU	25,53	RESISTANCE BULB TEMPERATURE CONTROLLER THERMO MASTER
TCU-	TCU-05A-3-MU	53	AIR TYPE PELTIER TEMPERATURE CONTROLLER PELTIER MASTER
	TCU-05F-3-MU	53	FAN TYPE PELTIER TEMPERATURE CONTROLLER PELTIER MASTER
	TCU-05MINI-1-[MU/COM-MU]	53	TEMPERATURE CONTROLLER [TYPE 05 MINI PELTIER/PELTIER COMMUNICATION FUNCTION]
	TCU-DC24-1	23,24	TEMPERATURE CONTROLLER [DC24 TYPE]
TN-	TN-□-□-SUSG	83	PTFE NEEDLE WITH SUS GUIDE[ID0.1MM ODO.3MM/ID0.2MM ODO.4MM/ID0.3MM ODO.5MM NEEDLE LENGTH 13.7/26.4MM]
	TN-□G	83	PTFE NOZZLE [13/14/15/16/17/18/19/20/21/22G NEEDLE LENGTH 8MM] RESIN NOZZLE
	TN-□G-□L-□G-□L	83	PTFE NOZZLE WITH SUS GUIDE [□G, needle length □mm, guide □G □mm]*
	TN-□G-U	83	UV BLOCK PTFE NOZZLE [13/14/15/16/17/18/19/20/21/22G NEEDLE LENGTH 8MM] RESIN NOZZLE
TPND-	TPND-□G-U	83	DOUBLE THREAD SCREWED TAPERED NOZZLE [12/14/16/18/20/22/25/27/30G]
TPP-	TPP-□E	82	SHUTTLE TYPE PLUNGER [5/10/20~70ML CLEAR]
TR-	TR-□	55	TRANSFORMER [AC110/117/200/220/240V-100V]
TT-	TT-□	37	PTFE TUBE [10/11/12/13/14/15/16/17/18/19/20/21/22/24/26/28/30/32]
	TT-□B	37	PTFE TUBE [10/11/12/13/15/16/17/18/19/20/21/22/24/26/28/30 BLACK]

V

	Model	Page	Item name
VSD-	VSD-1-001700	28,29	HIGH-PERFORMANCE MOHNO TYPE DISPENSER MOHNO MASTER V2

X

	Model	Page	Item name
XM	XM220RX-3A-L-[SBA/AAS]	65	CARTESIAN ROBOT CROSSMASTER 220RX
	XM230RX-3A-L-[SBA/AAS]	65	CARTESIAN ROBOT CROSSMASTER 230RX
	XM230SX-3A-L-[R/SS]	66	CARTESIAN ROBOT CROSSMASTER 230SX
	XM240RX-3A-L-[SBA/AAS]	65	CARTESIAN ROBOT CROSSMASTER 240RX
	XM320RX-3A-L-[SBA/AAS]	65	CARTESIAN ROBOT CROSSMASTER 320RX
	XM3300MEGAX-[3A/4A]-[L/R]-SS	67	CARTESIAN ROBOT CROSSMASTER 3300MEGAX
	XM330RX-3A-L-[SBA/AAS]	65	CARTESIAN ROBOT CROSSMASTER 330RX
	XM340RX-3A-L-[SBA/AAS]	65	CARTESIAN ROBOT CROSSMASTER 340RX
	XM340SX-3A-L-[R/SS]	66	CARTESIAN ROBOT CROSSMASTER 340SX
	XM420RX-3A-L-[SBA/AAS]	65	CARTESIAN ROBOT CROSSMASTER 420RX
	XM430RX-3A-L-[SBA/AAS]	65	CARTESIAN ROBOT CROSSMASTER 430RX
	XM4400MEGAX-[3A/4A]-[L/R]-SS	67	CARTESIAN ROBOT CROSSMASTER 4400MEGAX
	XM440RX-3A-L-[SBA/AAS]	65	CARTESIAN ROBOT CROSSMASTER 440RX
	XM460SX-3A-L-[R/SS]	66	CARTESIAN ROBOT CROSSMASTER 460SX
	XM5600MEGAX-[3A/4A]-[L/R]-SS	67	CARTESIAN ROBOT CROSSMASTER 5600MEGAX
	XM680SX-3A-L-[R/SS]	66	CARTESIAN ROBOT CROSSMASTER 680SX
	XM7800MEGAX-[3A/4A]-[L/R]-SS	67	CARTESIAN ROBOT CROSSMASTER 7800MEGAX

Other

	Model	Page	Item name
Other		39	TWO-COMPONENT MIXING DISPENSER DYNAMIC DUAL MASTER
		78	3D FOOD PRINTER 3D FOOD DISPENSER
		76	PIPETTING AND DILUTION SYSTEM FOR ICP ANALYSIS PRETREATMENT
		70	4-AXIS DESKTOP ROBOT TILT-HEAD TYPE
		70	4-AXIS DESKTOP ROBOT DISPENSING HEAD ROTATING TYPE
		68,69	IMAGE RECOGNITION DISPENSING SYSTEM 350PC SMART XMΩX
		68,69	IMAGE RECOGNITION DISPENSING SYSTEM 350PC SMART XMRX
		68,69	IMAGE RECOGNITION DISPENSING SYSTEM 350PC SMART SMΩX
		71	UV IRRADIATION/UV ADHESIVE DISPENSING ROBOT
		78	ALL-IN-ONE 3D FOOD PRINTER 3D FOOD MASTER
		76	IMMUNOCHROMATOGRAPHIC LINE DRAWING
		77	INLINE ENZYME/REAGENT DISPENSE SYSTEM MGD-7500
		71	CODE PRINTING ROBOT
		21	SOLDER PASTE JET DISPENSER SOLDER JET
		78	MULTI-COLOR COMPATIBLE FREEHAND DRAWING SOFTWARE Mu-Sketch
		59	O-RING FOR A TUBE
		71	SCREW TIGHTENING/THREADLOCKER DISPENSING ROBOT
		71	DEBURRING ROBOT
		71	PICK & PLACE/ADHESIVE DISPENSING ROBOT
		39	LIQUID PRESSURE PUMP MAIN UNIT
		71	LASER WELDING/SOLDER DISPENSING ROBOT
		75	FULLY PC CONTROLLED MULTI-CHANNEL DISPENSING SYSTEM PIPET MASTER
		55	SIMPLIFIED SYRINGE FILLER FILLING MATE
		39	HIGH-PERFORMANCE MOHNO DISPENSER DUAL MOHONOMASTER
		75	AUTOMATIC FILLING AND WEIGHING SYSTEM
		55	AUTOMATED WEIGHING TYPE SYRINGE FILLING SYSTEM AUTO FILLING MASTER
		76	SYSTEM FOR DILUTING IN MEASURING CYLINDER
		78	FOOD GRADE JET DECORATION SYSTEM CHOCO JET
		76	ULTRA-HIGH-SPEED REAGENT SPOTTING SYSTEM JET SPOTTER
		77	FORMULATION SYSTEM
		75	MICRO-VOLUME REAGENT SPOTTING SYSTEM SPOT MASTER
		71	DISPENSING FAILURE INSPECTION/DISPENSING ROBOT
		39	NON-CONTACT JET DISPENSER DUAL JET [DUAL AEROJET/DUAL SUPERJET]
		25	NON-CONTACT JET DISPENSER GREASE JET
		71	EVALUATION ROBOT
		77	POWDER DISPENSING AND WEIGHING SYSTEM POWDER SHOT
		75	CHEMICAL SOLUTION FILLING AND CAPPING SYSTEM
		77	VOLUMETRIC SYRINGE PUMP DISPENSING SYSTEM SYRINGE PUMP
		39	VOLUME MEASURING TYPE DIGITAL CONTROL DISPENSER DUAL MPP-1 DUAL CARTRIDGE COMPATIBLE
	39	VOLUME MEASURING TYPE DIGITAL CONTROL DISPENSER DUAL MPP-5-S	
	39	VOLUME MEASURING TYPE DIGITAL CONTROL DISPENSER DUAL MPP-5-M	
	39	VOLUME MEASURING TYPE DIGITAL CONTROL DISPENSER DUAL MPP-5-M-GF-MINI	

Note: 1. For the volumes, shapes, and others shown with [], select one of them in accordance with your specifications. The value of selected specifications shall be entered into the □ of a model name.
2. The products marked with * have other lineup.
3. For detailed specifications of parts accessories and valve/tank products, refer to the separate parts catalog or contact our sales department.

⚠ Safety Information
Precautions and request for your handling

About plastic products such as syringe, barrel, plunger, tip cap, head cap and nozzle, please follow the following instructions for your safety operation and good performance.

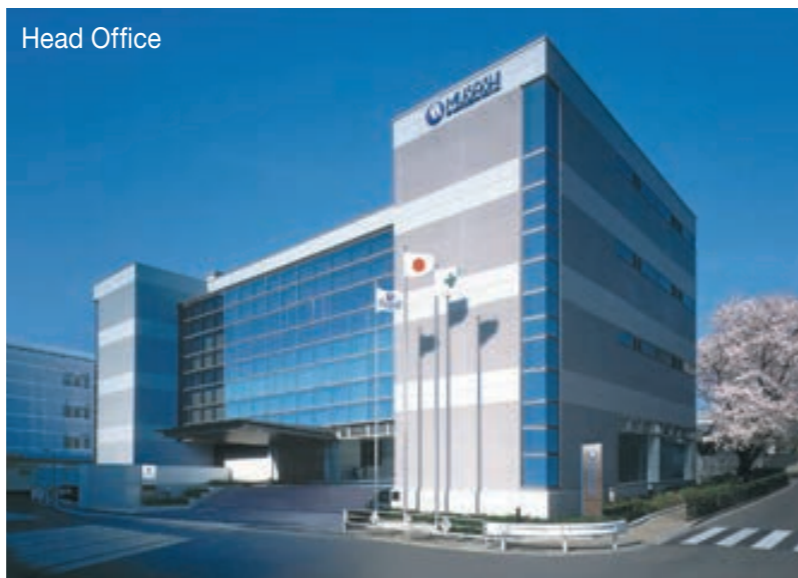
1. These products are disposable. Reuse after cleaning may have a risk of explosion and nozzle off to cause damage or injury of operator. Please dispose and change after using to maintain dispensing quality as well.
2. Please be careful not to give any shock. Particularly, a risk of damage with an impact when it is frozen.
3. Please do not wash with solvents such as toluene, MEK, acetone.
4. Please pressurize and heat product within those specification range.
5. Please keep away from fire.
6. Please wear protector such as protective goggles and clothing during operation.
7. Please dispose according to local regulation.

PROFILE

We create high-grade products backed by remarkable achievements and reliability.

The world's first pioneer of Dispense Hi-Tech, challenging the "Unexplored Territory"

MUSASHI is a comprehensive dispenser manufacturer that focuses on the development, manufacture, and sale of "Dispensing system" that precisely control fluid materials.



Head Office



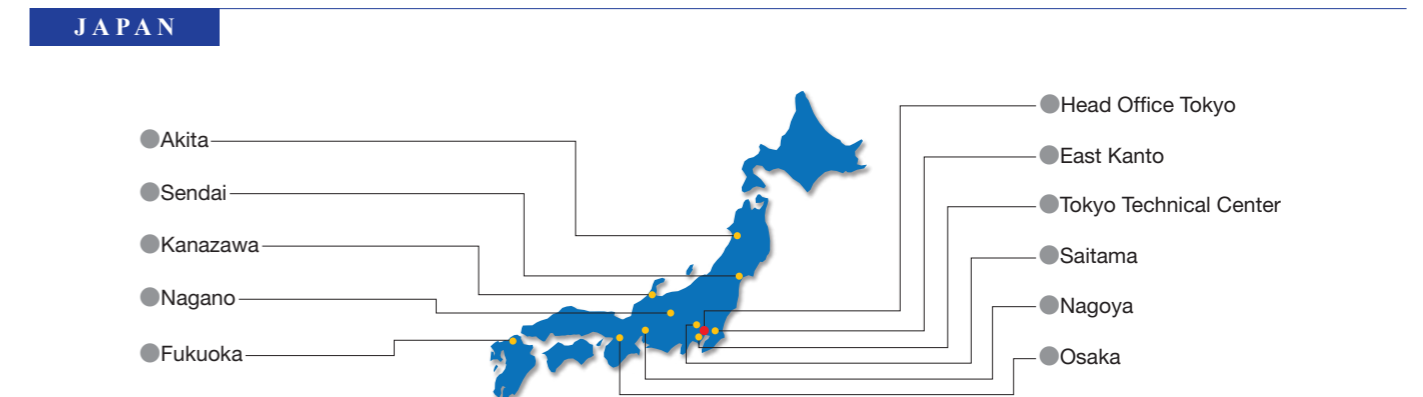
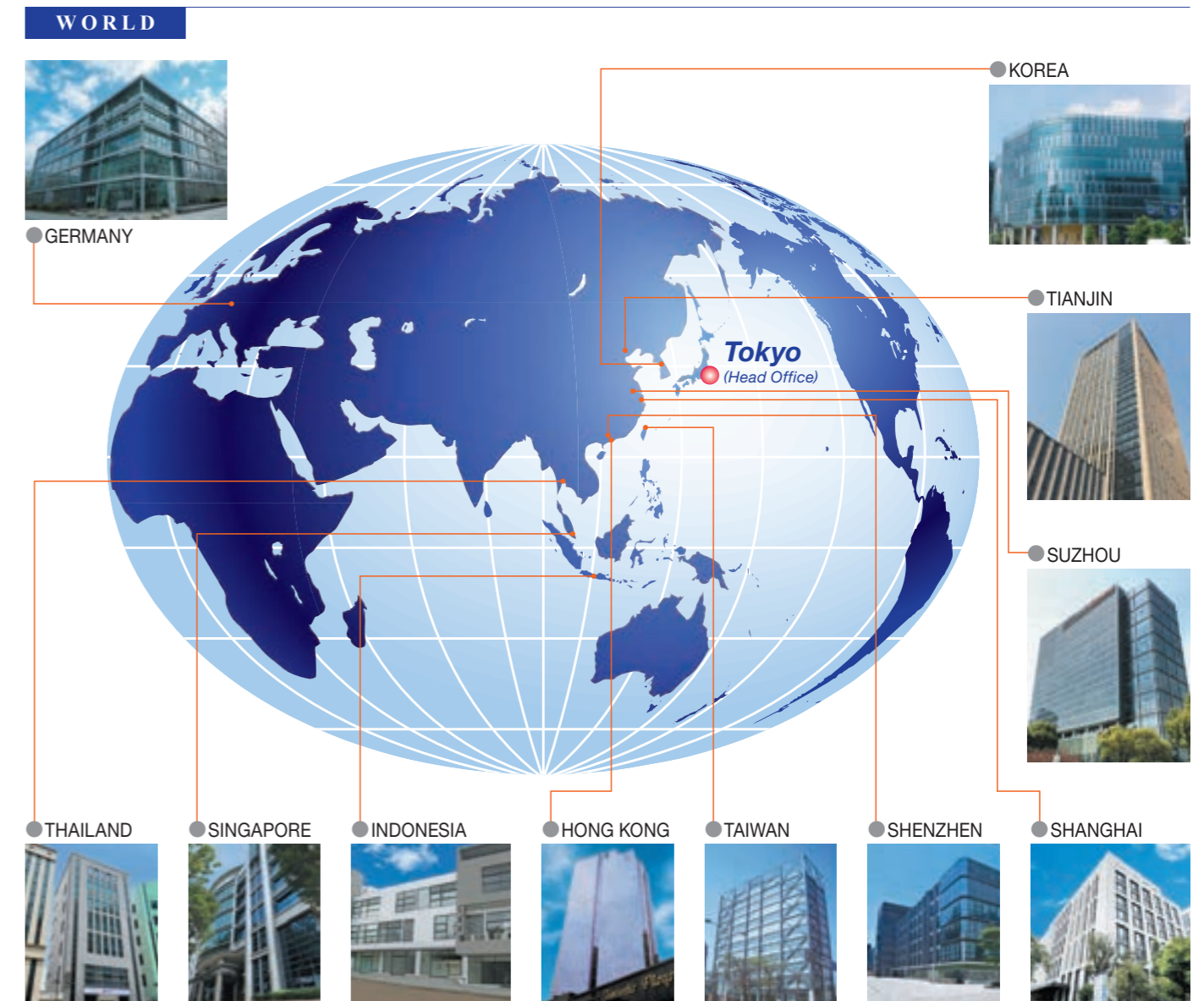
Production base: Tokyo Technical Center



WORLDWIDE

A global company, MUSASHI's business stages and reliability.

Domestic bases: 11 locations
Foreign bases: 11 locations




A reliable top performer with excellent achievements, MUSASHI will constantly seek new possibilities as a comprehensive manufacturer of dispensers.



Head Office



Tokyo Technical Center

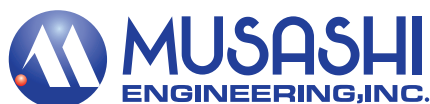
 **Safety precautions**
Please read the instruction manual carefully before use to ensure correct and safe usage.

*These specifications are subject to change without any notice.

*This specification indicates performance under our standard conditions and is not a guaranteed value. Please contact the sales department for details.

*The copyright of this catalog belongs to our company. Reproduction and distribution of the pictures, illustrations and any other information in this catalog to any other media without prior written permission are strictly prohibited; doing so will result in copyright infringement.

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<https://musashi-engineering.com/>



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MUSASHI ENGINEERING, INC.**

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