

PRECISION DISPENSER ACCESSORY SERIES



For precision and constant volume fluid dispensing
Parts, Accessories & Valves / Tanks



Syringes Accessory
Nozzles & Needles
Fluid Dispensing Valves
Tanks for Liquid Feeding
Other Productions

Another fluid control field to support state-of-the-art manufacturing technology. High-precision and high-quality parts that incorporate MUSASHI's dispensing know-how.

"Precision control technology that gives shape to fluids"

This can only be achieved when not only the Dispense Head Controller, but also all the units and parts that make up the Dispense System are optimized.

"MUSASHI" the pioneer of abstruse and unknown world, named precision fluid control. This development approach has been faithfully applied to peripheral devices and accessories that improve dispensing accuracy, as well as to each of our parts products such as syringes and nozzles, resulting in an abundance of variations that lead the industry.

Here is another leading edge area that only MUSASHI Dispensing Technology can provide.



The world's first

Straight inner wall design of the syringe
eliminates knocking of the plunger.

Makes it easier to visually check the remaining fluid level.

High pressure design
greatly increases strength.

Thick wall minimizes expand and contract.



Safe and secure
Adaptor tube with stopper holds the syringe.

Dual-wiping design
clears the wall thoroughly.
Smooth piston operation by the unique aero line system
implements high precision dispensing.

The world's first
Excellent flow characteristics
by tapered shape.

Micro volume and accurate dispensing
thanks to high precision and high quality design.

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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.

Actualizing excellent fluidity and high-precision dispensing performance

Dedicated syringe and plunger for dispensing are key devices to apply fluid materials precisely by air-pulse.

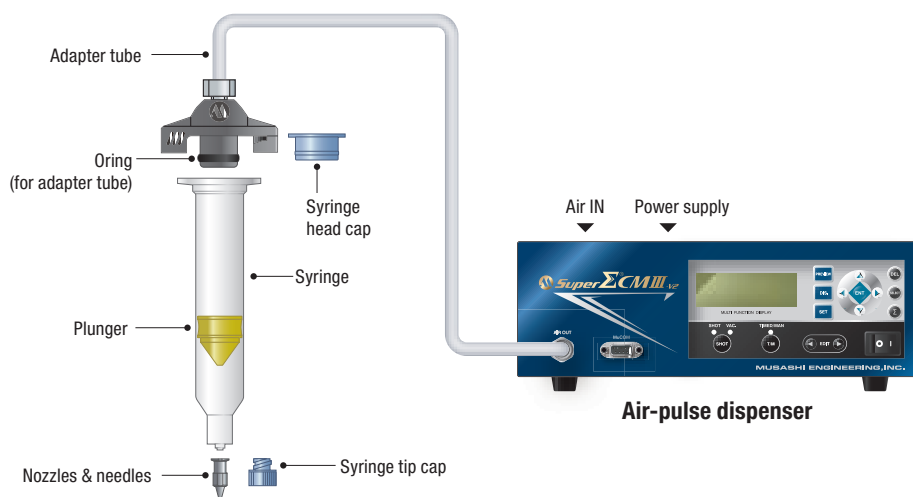
MUSASHI believes that its essential role is to achieve a high degree of compatibility between “performance as container,” such as visibility, solvent resistance, heat resistance, and cold resistance, and “dispensing performance,” as typified by flow performance, scraping performance, and dispensing precision.

MUSASHI is able to offer these parts products because of its extensive knowledge of dispensing technology know-how.

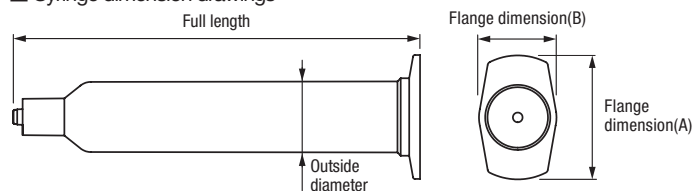


Air-pulse dispenser

Syringe Connection System Configuration Chart



■ Syringe dimension drawings

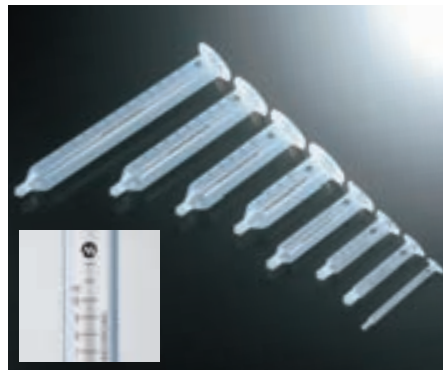


Clear syringe

Outstanding flow characteristics for ideal dispensing



Without graduations



With graduations

Those syringes are dedicated for fluid dispensing.

Straight inner wall design of the syringe eliminates “Knocking phenomenon” of the plunger. Drastically improved dispensing stability.

The lineup includes general-purpose ungraded syringes and graduated syringes that show the fluid residue at a glance. Choose from 9 sizes to fit your daily usage and Fluid pot life.

Material: Polypropylene

Syringe capacity	Without graduations	With graduations	Dimensions (mm)			Quantity (pcs per a pack)
	Model	Model	Full length	Outside diameter	Flange dimension(A×B)	
1 mL	—	PSY-1E2-M	84	φ6.7	16×9	50
3 mL	PSY-3E	PSY-3E-M	80.1	φ11.7	24.3×14.3	50
5 mL	PSY-5E	PSY-5E-M	80	φ14.9	27×16	50
10 mL	PSY-10E	PSY-10E-M	105	φ18.3	32×20	50
20 mL	PSY-20F	PSY-20F-M	104.8	φ26.2	45×30	50
30 mL	PSY-30F	PSY-30F-M	129.7	φ26.2	45×30	50
50 mL	PSY-50F	PSY-50F-M	160.7	φ26.2	45×30	50
70 mL	PSY-70F	PSY-70F-M	223.7	φ26.5	45×30	50
100 mL	PSY-100E	—	191	φ35.8	60×38.8	20

Note: Working pressure: 0.5 MPa maximum at normal temperature

UV block syringe

Finally actualized “The World First”! 100% protection from UV rays, furthermore remaining amount recognizable at a glance



Without graduations



With graduations

Syringe exclusively designed for UV curing materials. This model is a syringe equipped with epoch-making functions, one of which is complete UV ray blockage and the other of which is manifest visibility of the remaining liquid level provided by improved transmittance in the visible light range.

Material: Polypropylene



UV is completely shut out while visual and sensor confirmation is achieved.

Syringe capacity	Without graduations	With graduations	Dimensions (mm)			Quantity (pcs per a pack)
	Model	Model	Full length	Outside diameter	Flange dimension	
3 mL	PSY-3EU-OR	PSY-3EU-OR-M	80	φ11.7	24.3×14.3	50
5 mL	PSY-5EU-OR	PSY-5EU-OR-M	80	φ14.9	27×16	50
10 mL	PSY-10EU-OR	PSY-10EU-OR-M	105.3	φ18.3	32×20	50
20 mL	PSY-20FU-OR	PSY-20FU-OR-M	104.8	φ26.2	45×30	50
30 mL	PSY-30FU-OR	PSY-30FU-OR-M	129.7	φ26.2	45×30	50
50 mL	PSY-50FU-OR	PSY-50FU-OR-M	160.7	φ26.1	45×30	50
70 mL	PSY-70FU-OR	PSY-70FU-OR-M	223.7	φ26.5	45×30	50
100 mL	PSY-100EU-OR	—	191	φ35.8	60×38.8	20

Note: Working pressure: 0.5 MPa maximum at normal temperature

Color syringe



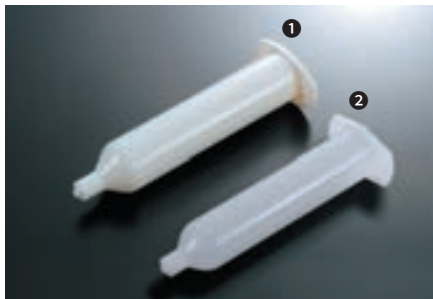
Ideal for variety control by fluid material

Peppermint Green Color Syringe Ideal for variety control by fluid material, etc.
Material: Polypropylene

Syringe capacity	Model	Dimensions (mm)			Quantity (pcs per a pack)
		Full length	Outside diameter	Flange dimension	
5 mL	PSY-5E-PG	80.4	φ14.9	27×16	50
10 mL	PSY-10E-PG	105.5	φ18.3	32×20	50
20 mL	PSY-20F-PG	104.8	φ26.2	45×30	50
30 mL	PSY-30F-PG	129.7	φ26.2	45×30	50
50 mL	PSY-50F-PG	160.7	φ26.2	45×30	50

Note: Working pressure: 0.5 MPa maximum at normal temperature

Heat-resistant syringe



Ideal for Reactive Hot melt (PUR) and Hot melt

Disposable syringe for fluid materials to be heated while dispensing.
Two types with heat-resistance temperatures of 130°C and 180°C are available. Please choose according to usage.
Ideal for process improvement from double-sided tape bonding and for fine drawing.
EU RoHS2 compliant.

Material: PBT [PSY-30FH-P]
Polypropylene [PSY-30FH2-P]

Heat-resistant Temperature	Syringe Capacity	Model	Dimensions (mm)			Quantity (pcs per a pack)
			Full length	Outside diameter	Flange dimension	
① 180°C	30 mL	PSY-30FH-P	130.5	φ26.5	45×30	50
② 130°C	30 mL	PSY-30FH2-P	130	φ26.5	45×30	50

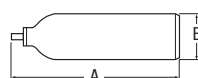
Mounter-specific syringe



Highly stable dispensing implemented for temporary chip fixing process

Syringe with flange cut to fit tip mounter handling.
Material: Polypropylene

Syringe capacity	Model	Dimensions (mm) (A×B)	Quantity (pcs per a pack)
20 mL	PSY-20P	96.6×φ26	50



Antistatic syringe set



Outstanding antistatic effect! Does not accumulate harmful static electricity on electronic components!

This Syringe has an antistatic function to release static electricity.
Provides anti-dust effect.

Syringe material: Polypropylene
Adapter head material: Polyacetal
Tube material: Polyurethane
Oring material: Fluororubber

Syringe capacity	Antistatic syringe					Antistatic adapter tube (with stopper)		Applicable dispenser
	Model	Dimensions (mm)			Quantity (pcs per a pack)	Model	Tube length	
		Full length	Outside diameter	Flange dimension				
10 mL	PSY-10E-SEP	105.5	φ18.3	32×20	50	AT-10E-H-SEP-1.0M	1 m	—
30 mL	PSY-30E-SEP	130	φ26.2	45×30	50	AT-50E-H-SEP-1.0M	1 m	—
						AT-50E-H-SEP-SIGMA-1.0M	1 m	For Σ
50 mL	PSY-50E-SEP	161.5	φ26.2	45×30	50	AT-50E-H-SEP-1.0M	1 m	—
						AT-50E-H-SEP-SIGMA-1.0M	1 m	For Σ

Note: 1. Working pressure: 0.5 MPa (5 kgf/cm²) maximum, when using a PSY-10E-SEP at normal temperature
0.3 MPa (3 kgf/cm²) maximum, when using a PSY-30E-SEP or a PSY-50E-SEP at normal temperature
2. The tube length of the adapter tube can be specified (in steps of 0.5 mm). The following example shows how to specify the length.
e.g., To order a 1.5 m-long antistatic adapter tube (with stopper) for a 10 mL syringe, specify it as "AT-10E-H-SEP-1.5M".

Stainless syringe set



Best suited for dispensing at high temperatures!

For liquid materials such as hot melt and special chemicals that are difficult to handle with ordinary resinous syringes.

High temperature (200°C) compatible.

Syringe material: Stainless steel
Adapter head material: Stainless steel
Tube material: Fluorine resin
Oring material: Fluororubber

Syringe capacity	Stainless syringe					Stainless adapter tube (with stopper)	
	Model	Dimensions (mm)			Quantity (pcs per a pack)	Model	Tube length
		Full length	Outside diameter	Flange dimension			
1 mL	SSY-1B	85	φ6.6	18×9	1	—	
3 mL	SSY-3E	80	φ11.2	24×14	1	AT-3E-SUS-1.0M	1 m
5 mL	SSY-5E	80	φ14.7	27×16	1	AT-5E-SUS-1.0M	1 m
10 mL	SSY-10E	105	φ18.1	32×20	1	AT-10E-SUS-1.0M	1 m
30 mL	SSY-30E	130	φ25.5	45×30	1	AT-50E-SUS-1.0M	1 m
50 mL	SSY-50E	160	φ25.5	45×30	1		1 m

Note: 1. Please contact our Sales Department for options.
2. Working pressure: Max. 0.5 MPa
3. The tube length of the adapter tube can be specified (in steps of 0.5 mm). The following example shows how to specify the length.
e.g., To order a 1.5 m-long stainless adapter tube (with stopper) for a 10 mL syringe, specify it as "AT-10E-SUS-1.5M".

Lineup of new type adapter tubes equipped with a safe and secure stopper



With stopper

Adapter tube [with stopper]



One touch connection! Excellent performance for stable dispensing with fine airtightness!

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

Adapter material: Polyacetal (AT-100E: made of aluminium alloy)

Tube material: Special elastomer resin (for Σ series dispensers: Polyurethane)

Oring material: Fluororubber

Syringe capacity	Model	Tube length	Applicable dispenser
1 mL	AT-1E *1	1 m	—
3 mL	AT-3E-H-1.0M	1 m	—
5 mL	AT-5E-H-1.0M	1 m	—
	AT-5E-H-SIGMA-1.0M	1 m	For Σ
10 mL	AT-10E-H-1.0M	1 m	—
	AT-10E-H-SIGMA-1.0M	1 m	For Σ
20 to 70 mL	AT-50E-H-1.0M	1 m	—
	AT-50E-H-SIGMA-1.0M	1 m	For Σ
100 mL	AT-100E *1	1 m	—

Note: This product can be ordered with length specification (in units of 0.5 m). The following example shows how to specify the length.

e.g., if you want to order a 1.5 m-long adapter tube (with stopper) for a 10 mL syringe, the item number is "AT-10E-H-1.5M".

To purchase an adapter tube longer than 1 m dedicated for the Σ series, please contact our sales department.

*1 AT-1E and AT-100E models are not equipped with a stopper.

Adapter tube [with stopper, with clamp]



Shuts off suction of fluid materials

Adapter material: Polyacetal

Tube material: Special elastomer resin

Oring material: Fluororubber

Syringe capacity	Model	Tube length
3 mL	AT-3E-H-C-1.0M	1 m
5 mL	AT-5E-H-C-1.0M	1 m
10 mL	AT-10E-H-C-1.0M	1 m
20 to 70 mL	AT-50E-H-C-1.0M	1 m

Note: This product can be ordered with length specification (in units of 0.5 m). The following example shows how to specify the length.

e.g., if you want to order a 1.5 m-long adapter tube (with stopper and clamp) for a 10 mL syringe, the item number is "AT-10E-H-C-1.5M".

Adapter tube for plastic connector [with stopper]



Adapter material: Polyacetal

Tube material: Special elastomer resin

Oring material: Fluororubber

Syringe capacity	OD ϕ 4 type tube	OD ϕ 6 type tube	Tube length
	Model	Model	
3 mL	AT-3E-H-P4C-1.0M	AT-3E-H-P6C-1.0M	1 m
5 mL	AT-5E-H-P4C-1.0M	AT-5E-H-P6C-1.0M	1 m
10 mL	AT-10E-H-P4C-1.0M	AT-10E-H-P6C-1.0M	1 m
20 to 70 mL	AT-50E-H-P4C-1.0M	AT-50E-H-P6C-1.0M	1 m

Note: 1. This product can be ordered with length specification (in units of 0.5 m). The following example shows how to specify the length.

e.g., if you want to order a 1.5 m-long adapter tube for plastic connector (with stopper) for a 10 mL syringe, the item number is "AT-10E-H-P4C-1.5M".

2. Both OD ϕ 4 type tube and OD ϕ 6 type tube are equipped with a clamp.

Side connection adapter tube [with stopper]



Best suited for locations with narrow space above the syringe

Best suited for locations with narrow space above the syringe. In this tube assembly, the tube comes out of the side of the adapter to be connected to the syringe. This model is suitable when there is not enough space above the syringe. e.g., Mounting a dispenser on an automated machine.

Adapter material: Polyacetal

Tube material: Special elastomer resin (for Σ series dispensers: Polyurethane)

O-ring material: Fluororubber

Syringe capacity	Model	Tube length	Applicable dispenser
5 mL	AT-5E-H-S-1.0M	1 m	—
10 mL	AT-10E-H-S-1.0M	1 m	—
20 to 70 mL	AT-50E-H-S-1.0M	1 m	—
	AT-50E-H-S-SIGMA-1.0M	1 m	For Σ

Note: This product can be ordered with length specification (in units of 0.5 m). The following example shows how to specify the length.

e.g., If you want to order a 1.5 m-long side connection adapter tube (with stopper) for a 10 mL syringe, the item number is "AT-10E-H-S-1.5M".

To purchase an adapter tube longer than 1 m dedicated for the Σ series, please contact our sales department.

Air connector tube, with filter



Prevents fluid material from being sucked into the dispenser

Prevents fluid material from being sucked into the dispenser, thus preventing failures.

Tube material: Special elastomer resin

Item name	Model	Tube length
Air connector tube [QJ plug/QJ socket, with filter, 150 mm]	CT-36PS-F	150 mm

O-ring (for adapter tube)



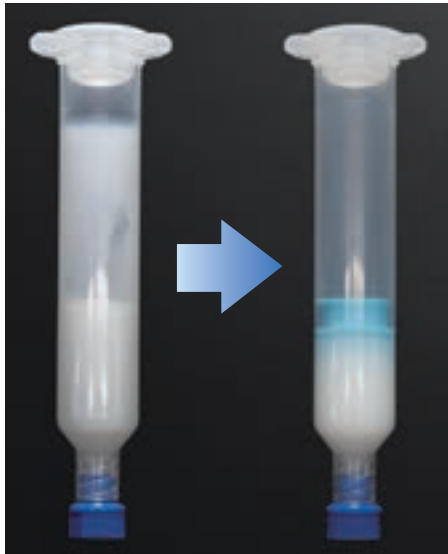
High level of airtightness according to the fluid characteristics

This is a spare O-ring for the adapter. Select a suitable O-ring from among four kinds of materials according to the characteristics of fluid for dispensing.

Material: Fluororubber/Silicone rubber/NBR/Perfluoroelastomer

Syringe capacity	①Fluororubber	②Silicone rubber	③NBR	④Perfluoroelastomer	Quantity (pcs per a pack)
	Model	Model	Model	Model	
1 mL	ORG-1.5-V-B-1	ORG-1.5-S-R-1	ORG-1.5-N-B-1	ORG-1.5-P-B-1	20
3 mL	ORG-6-V-B-1	ORG-6-S-R-1	ORG-6-N-B-1	ORG-6-P-B-1	20
5 mL	ORG-9-V-B-1	ORG-9-S-R-1	ORG-9-N-B-1	ORG-9-P-B-1	20
10 mL	ORG-11-V-B-1	ORG-11-S-R-1	ORG-11-N-B-2	ORG-11-P-B-1	20
20 to 70 mL	ORG-18-V-B-1	ORG-18-S-R-1	ORG-18-N-B-1	ORG-18-P-B-1	20
100 mL	ORG-24-V-B-1	ORG-24-S-R-1	ORG-24-N-B-2	ORG-24-P-B-1	20

Plunger



Without plunger

With plunger

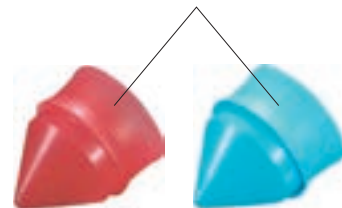
High-precision dispensing with excellent wiping performance

This product is attached to the internal part of a syringe to dispense fluid material with high precision to the end without waste. Choose according to the characteristics and application of the fluid material to be discharged.

Squeeze material cost

Reduce reject rate with high-precision dispensing

Dual wipe structure enables thorough fluid wiping.



Float wiper plunger

For high precision dispensing



Developed based on the concept of maximizing the performance and functions of the Air-pulse dispenser. Smooth fluidity, as if floating on the fluid surface inside the syringe, transmits precise Air-pulses to the fluid for high precision dispensing.

Miracle wiper plunger

Emphasizes scrapping of fluids



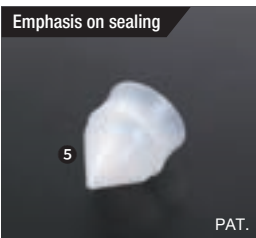
From the FLP series, a plunger with enhanced plunger wiping function. Two colors (red/blue) are lined up for use depending on the type and color of the fluid.

Shuttle-type plunger

For Ag paste and solder paste



The wiping blade on the top of the plunger closely matches the inner diameter of the syringe to achieve exquisite scraping performance.

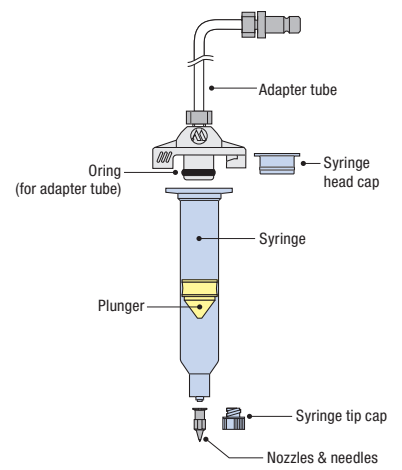


Emphasis on sealing

“Anyway, the fluid needs to be scraped off.” “Need to dispense low viscosity fluids such as volatile fluids and water.” “Need to use a constantly pressurized system, such as a jet dispenser.” The plunger is designed for uses such as.

Syringe capacity	① Float wiper plunger	② Shuttle-type plunger	③ Miracle wiper plunger (red)	④ Miracle wiper plunger (blue)	⑤ Miracle wiper plunger (white)	Quantity (pcs per a pack)
	Model	Model	Model	Model	Model	
1 mL	FLP-1E	—	—	—	—	50
3 mL	FLP-3E	—	—	—	—	50
5 mL	FLP-5E	TPP-5E	MLP-R-5E	MLP-B-5E	MLP-5E	50
10 mL	FLP-10E	TPP-10E	MLP-R-10E	MLP-B-10E	MLP-10E	50
20 to 70 mL	FLP-50E	TPP-30/50E	MLP-R-50E	MLP-B-50E	MLP-50E	50
100 mL	FLP-100E	—	—	—	—	50

Material: Polyethylene

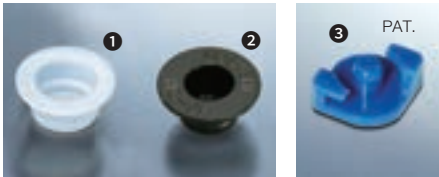


Syringe head cap/Syringe tip cap

Ideal for storing and transporting fluid materials in syringes!

These caps are used to seal the head and tail of the syringe.

Material: Polyethylene for ①, ②, ③, ⑦, ⑧ and ⑨
 Polypropylene for ④ and ⑤
 PBT for ⑥



Lock type

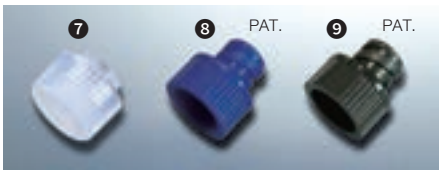
Syringe head cap

Syringe capacity	① For ordinary materials	② For UV materials	③ For ordinary materials (with hook)	Quantity (pcs per a pack)
	Model	Model	Model	
1 mL	—	—	HC-1E-H	50
3 mL	HC-3E	HC-3EU-B	—	50
5 mL	HC-5E	HC-5EU-B	—	50
10 mL	HC-10C	HC-10U-B	—	50
20 to 70 mL	HC-50E	HC-50EU-B	—	50
100 mL	HC-100E	—	—	50



Syringe tip cap (normal type)

Syringe capacity	④ For ordinary materials	⑤ For UV materials	⑥ For heat-resistant materials	Quantity (pcs per a pack)
	Model	Model	Model	
Common for all sizes	NC-3E	NC-3EU-B	NC-3FH	50



Syringe tip cap (knurled type)

Syringe capacity	⑦ For ordinary materials	⑧ For ordinary materials	⑨ For UV materials	Quantity (pcs per a pack)
	Model	Model	Model	
Common for all sizes	NC-5E	NC-7E	NC-7EU-B	50

Protective cap for syringe tip

Protects the syringe tip with a tip cap on

Prevents leakage of fluid material due to breakage of tip caps during storage and transportation of syringes filled with fluid material.

Material: Polypropylene

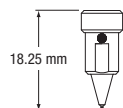


Syringe capacity	Applicable tip cap	Model	Quantity (pcs per a pack)
Common for all sizes	NC-3E/NC-3EU-B	GC-1	50

The best quality ensures the finest dispensing

To maximize the capability of the dispense controller, the best parts are also used for the outlet of fluid materials. MUSASHI has put all of its dispensing know-how into the design of its nozzles and needles to give shape to this philosophy. Thorough mechanization and skilled processing techniques are used to create products that achieve high-precision dispensing. A wide range of variations are available to meet the needs of fluid material types and Dispensing applications.

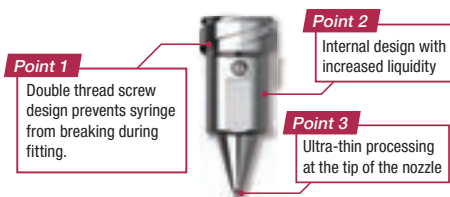
Double thread screw precision solid nozzle



No clogging, achieving micro dispensing.

- High Tact** Tact time is 1/5 of that of conventional models.
- High-stability** Solder/Ag paste dispensing "Without clogging"
- Micro dispensing** Microfabrication at the tip of the nozzle

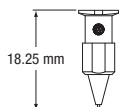
Needle material: Stainless steel



Measurement unit (mm)

Model	Nozzle ID (φ)	Quantity (pcs per a pack)
DSHN-M2-0.30F	0.30	1
DSHN-M2-0.25F	0.25	1
DSHN-M2-0.20F	0.20	1
DSHN-M2-0.15F	0.15	1
DSHN-M2-0.10F	0.10	1

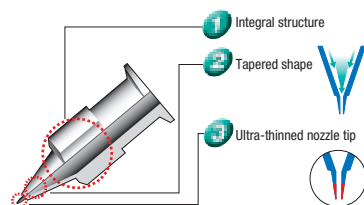
Precision solid nozzle



Micro volume dispensing with high stability achieved thanks to integral nozzle structure

The integral structure eliminates the operation of nozzle mounting to the needle base. Excellent flowability thanks to the tapered shape. Ultra-thin processing of needle tip actualizes high-precision dispensing with high stability in small volume.

Needle material: Stainless steel



Measurement unit (mm)

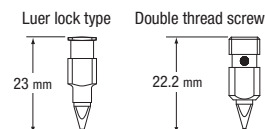
Model	Nozzle OD (φ)	Nozzle ID (φ)	Quantity (pcs per a pack)
SHN-0.6N	0.70	0.60	1
SHN-0.5N	0.60	0.50	1
SHN-0.45N	0.55	0.45	1
SHN-0.4N	0.50	0.40	1
SHN-0.35N	0.45	0.35	1
SHN-0.3N	0.40	0.30	1
SHN-0.25N	0.35	0.25	1
SHN-0.2N	0.30	0.20	1
SHN-0.15N	0.25	0.15	1
SHN-0.1N	0.20	0.10	1

Precision nozzle



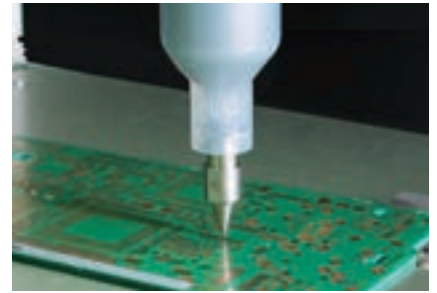
Stable dispensing of fluids containing filler

Ideal for high-precision micro-dispensing.
 Needle material: Stainless steel
 Needle base materia: Brass (Nickel plate)
 [Luer lock type]
 : Stainless steel
 [Double thread screw type]



Measurement unit (mm)

Luer lock	Double thread screw	Nozzle OD (φ)	Nozzle ID (φ)	Quantity (pcs per a pack)
Model	Model			
HN-0.6N	HN-0.6ND	0.80	0.60	1
HN-0.5N	HN-0.5ND	0.70	0.50	1
HN-0.4N	HN-0.4ND	0.60	0.40	1
HN-0.3N	HN-0.3ND	0.50	0.30	1
HN-0.25N	HN-0.25ND	0.45	0.25	1
HN-0.2N	HN-0.2ND	0.40	0.20	1
HN-0.15N	HN-0.15ND	0.25	0.15	1
HN-0.1N	HN-0.1ND	0.20	0.10	1



Super-fine nozzles

Micro-dispensing available from as small as $\phi 10 \mu\text{m}$ onwards

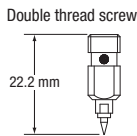
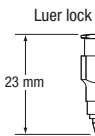
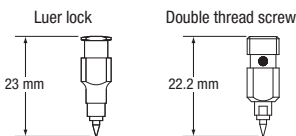


PAT.

Combined use with MUSASHI Dispenser realizes ultra-small dots dispensing and ultra-high definition drawing.

Needle base material : Brass (Nickel plate) [Luer lock type]

: Stainless steel [Double thread screw type]



Measurement unit (mm)					Tip thickness: 15 μm Measurement unit (mm)				
Luer lock	Double thread screw	Nozzle OD (ϕ)	Nozzle ID (ϕ)	Quantity (pcs per a pack)	Luer lock	Double thread screw	Nozzle OD (ϕ)	Nozzle ID (ϕ)	Quantity (pcs per a pack)
Model	Model				Model	Model			
FN-0.60N	FN-0.60ND	0.70	0.60	1	FN-0.60N-F	FN-0.60ND-F	0.63	0.60	1
FN-0.50N	FN-0.50ND	0.60	0.50	1	FN-0.50N-F	FN-0.50ND-F	0.53	0.50	1
FN-0.40N	FN-0.40ND	0.50	0.40	1	FN-0.40N-F	FN-0.40ND-F	0.43	0.40	1
FN-0.30N	FN-0.30ND	0.40	0.30	1	FN-0.30N-F	FN-0.30ND-F	0.33	0.30	1
FN-0.25N	FN-0.25ND	0.35	0.25	1	FN-0.25N-F	FN-0.25ND-F	0.28	0.25	1
FN-0.20N	FN-0.20ND	0.30	0.20	1	FN-0.20N-F	FN-0.20ND-F	0.23	0.20	1
FN-0.15N	FN-0.15ND	0.25	0.15	1	FN-0.15N-F	FN-0.15ND-F	0.18	0.15	1
FN-0.10N	FN-0.10ND	0.20	0.10	1	FN-0.10N-F	FN-0.10ND-F	0.13	0.10	1
FN-0.05N	FN-0.05ND	0.15	0.05	1	FN-0.05N-F	FN-0.05ND-F	0.08	0.05	1
FN-0.04N	FN-0.04ND	0.14	0.04	1	FN-0.04N-F	FN-0.04ND-F	0.07	0.04	1
FN-0.03N	FN-0.03ND	0.13	0.03	1	FN-0.03N-F	FN-0.03ND-F	0.06	0.03	1
FN-0.02N	FN-0.02ND	0.12	0.02	1	FN-0.02N-F	FN-0.02ND-F	0.05	0.02	1

Metal needle

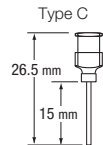
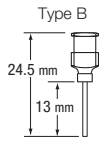
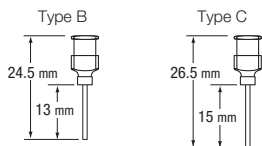
Versatile standard metal needle



Durable stainless steel metal pipes are used. Wide lineup for various dispensing shapes.

Needle material: Stainless steel

Needle base material: Brass (Nickel plate)

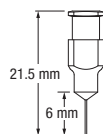
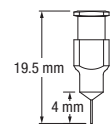
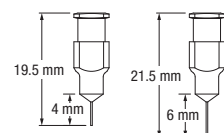


Gauge	Needle length		Needle OD (ϕ)	Needle ID (ϕ)	Quantity (pcs per a pack)
	13 mm	15 mm			
	Model	Model			
12	SNA-12G-B	SNA-12G-C	2.77	2.27	60
13	SNA-13G-B	SNA-13G-C	2.40	1.94	60
14	SNA-14G-B	SNA-14G-C	2.10	1.64	60
15	SNA-15G-B	SNA-15G-C	1.83	1.43	60
16	SNA-16G-B	SNA-16G-C	1.65	1.25	60
17	SNA-17G-B	SNA-17G-C	1.49	1.11	60
18	SNA-18G-B	SNA-18G-C	1.28	0.92	60
19	SNA-19G-B	SNA-19G-C	1.08	0.72	60
20	SNA-20G-B	SNA-20G-C	0.91	0.61	60
21	SNA-21G-B	SNA-21G-C	0.82	0.52	60
22	SNA-22G-B	SNA-22G-C	0.72	0.42	60
23	SNA-23G-B	SNA-23G-C	0.64	0.34	60
24	SNA-24G-B	SNA-24G-C	0.57	0.31	60
25	SNA-25G-B	SNA-25G-C	0.52	0.26	60
26	SNA-26G-B	SNA-26G-C	0.46	0.25	60
27	SNA-27G-B	SNA-27G-C	0.42	0.21	60
28	SNA-28G-B	SNA-28G-C	0.36	0.18	60
30	SNA-30G-B	SNA-30G-C	0.32	0.14	60
31	SNA-31G-B	SNA-31G-C	0.26	0.13	60
32	SNA-32G-B	SNA-32G-C	0.23	0.10	60

Note: For specifying needle length, the length from needle base should be notified. Contact our sales department for further information.

Thin metal needle

Needle material: Stainless steel
Needle base material: Brass (Nickel plate)

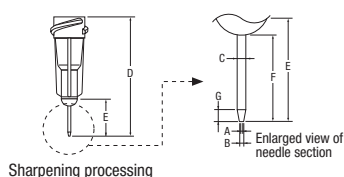


Measurement unit (mm)				
Needle length 4 mm	Needle length 6 mm	Needle OD (ϕ)	Needle ID (ϕ)	Quantity (pcs per a pack)
Model	Model			
SNA-0.10N-4L-F	SNA-0.10N-6L-F	0.2	0.1	1
SNA-0.20N-4L-F	SNA-0.20N-6L-F	0.3	0.2	1
SNA-0.30N-4L-F	SNA-0.30N-6L-F	0.4	0.3	1

Note: For specifying needle length, the length from needle base should be notified. Contact our sales department for further information.

Color of needle base is useful for needle size identification

Sharp needle



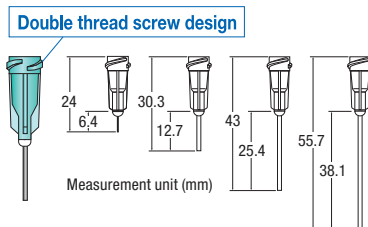
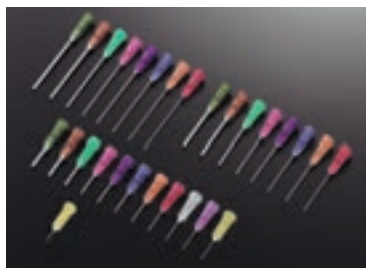
Needle tip sharpening process realizes Micro Dispensing.

High-precision tapered shape of needle tip enables micro-dispensing.
 Double thread screw design allows the needle to be installed securely on the syringe.
 Needle material: Stainless steel
 Needle base material: Polypropylene

Measurement unit (mm)

Model	Total length (D)	Needle length (E)	Visible needle length (F)	Tapered tip length (G)	Needle ID (φ) (A)	Needle tip OD (φ) (B)	Needle OD (φ) (C)	Color	Quantity (pcs per a pack)
SPN-0.84-12.7L	30.3	12.7	(11.4)	(0.6)	0.84	1.00	1.27	Green	50
SPN-0.58-38.1L	55.7	38.1	(37.1)	(0.32)	0.58	0.74	0.91	Pink	50
SPN-0.41-38.1L	55.7	38.1	(37.1)	(0.4)	0.41	0.52	0.71	Blue	50
SPN-0.33-12.7L	30.3	12.7	(11.4)	(0.3)	0.33	0.44	0.64	Orange	50
SPN-0.25-12.7L	30.3	12.7	(11.4)	(0.3)	0.25	0.34	0.51	Rose	50
SPN-0.17-9.5L	27.1	9.5	(8.5)	(0.5)	0.17	0.26	0.51	Light blue	25
SPN-0.12-6.5L	24.0	6.5	(5.6)	(1.1)	0.12	0.19	0.46	Gray	25

Double thread screwed plastic needle



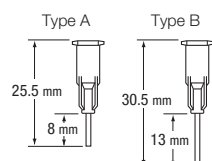
Safe and secure attachment into a syringe with double thread screwed needle design

Double thread screw design allows the needle to be installed securely on the syringe.
 A variety of needle lengths and gauges increases range of dispensing applications.
 Needle material: Stainless steel
 Needle base material: Polypropylene

Measurement unit (mm)

Gauge	Needle length 6.4 mm	Needle length 12.7 mm	Needle length 25.4 mm	Needle length 38.1 mm	Needle OD (φ)	Needle ID (φ)	Color	Quantity (pcs per a pack)
	Model	Model	Model	Model				
14	—	DPN-14G-1	DPN-14G-2	DPN-14G-3	1.83	1.52	Dark green	50
15	—	DPN-15G-1	DPN-15G-2	DPN-15G-3	1.65	1.37	Brown	50
18	—	DPN-18G-1	DPN-18G-2	DPN-18G-3	1.27	0.84	Light green	50
20	—	DPN-20G-1	DPN-20G-2	DPN-20G-3	0.91	0.58	Pink	50
21	—	DPN-21G-1	DPN-21G-2	DPN-21G-3	0.81	0.51	Purple	50
22	—	DPN-22G-1	DPN-22G-2	DPN-22G-3	0.71	0.41	Blue	50
23	—	DPN-23G-1	DPN-23G-2	DPN-23G-3	0.64	0.33	Orange	50
25	—	DPN-25G-1	DPN-25G-2	DPN-25G-3	0.51	0.25	Rose	50
27	—	DPN-27G-1	—	—	0.41	0.20	White	50
30	—	DPN-30G-1	—	—	0.30	0.15	Light purple	50
32	DPN-32G-0	DPN-32G-1	—	—	0.23	0.10	Yellow	50

Plastic needles



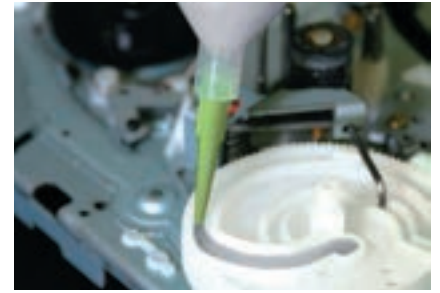
Inexpensive disposable type

Nozzle using plastic for the needle base.
 Needle material: Stainless steel
 Needle base material: Polyacetal

Measurement unit (mm)

Gauge	Needle length 8 mm	Needle length 13 mm	Needle OD (φ)	Needle ID (φ)	Color	Quantity (pcs per a pack)
	Model	Model				
15	PN-15G-A	PN-15G-B	1.83	1.43	Brown	50
16	PN-16G-A	PN-16G-B	1.65	1.26	Black	50
17	PN-17G-A	PN-17G-B	1.50	1.06	Blue	50
18	PN-18G-A	PN-18G-B	1.27	0.97	Gray	50
19	PN-19G-A	PN-19G-B	1.08	0.78	Light green	50
20	PN-20G-A	PN-20G-B	0.90	0.66	Light pink	50
21	PN-21G-A	PN-21G-B	0.81	0.57	White	50
22	PN-22G-A	PN-22G-B	0.72	0.47	Light blue	50
23	PN-23G-A	PN-23G-B	0.64	0.40	Yellow	50
24	PN-24G-A	PN-24G-B	0.56	0.31	Ivory	50
25	PN-25G-A	PN-25G-B	0.51	0.29	Rose	50
26	PN-26G-A	PN-26G-B	0.46	0.25	Peacock green	50
27	PN-27G-A	PN-27G-B	0.41	0.20	Brown	50

Note: For specifying needle length, the length from needle base should be notified. Contact our sales department for further information.



Double thread screwed tapered nozzle

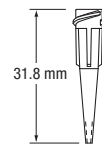
Compatible with UV materials. Best suited for high viscosity fluid materials.

Measurement unit (mm)



High flowability of fluid materials makes it ideal for dispensing high-viscosity materials and filler containing materials. Resin material does not damage the workpiece even if it interferes with it.

Material: Polyethylene



Gauge	Model	Nozzle ID (φ)	Color	Quantity (pcs per a pack)
12	TPND-12G-U	2.40	● Red	50
14	TPND-14G-U	1.60	● Dark green	50
16	TPND-16G-U	1.19	● Black	50
18	TPND-18G-U	0.84	● Light green	50
20	TPND-20G-U	0.61	● Pink	50
22	TPND-22G-U	0.40	● Blue	50
25	TPND-25G-U	0.25	● Red	50
27	TPND-27G-U	0.20	● Dark gray	50
30	TPND-30G-U	0.15	● Olive	50

UV-block PTFE nozzle

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

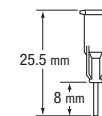
Measurement unit (mm)



For UV materials where metal needles cannot be used.

Needle material: Fluorine resin

Needle base material: Polyacetal



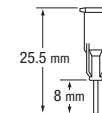
Gauge	Model	Nozzle OD (φ)	Nozzle ID (φ)	Color	Quantity (pcs per a pack)
13	TN-13G-U	2.10	1.50	● Dark gray	50
14	TN-14G-U	1.95	1.35	● Dark green	50
15	TN-15G-U	1.79	1.19	● Olive	50
16	TN-16G-U	1.67	1.07	● Black	50
17	TN-17G-U	1.56	0.96	● Green	50
18	TN-18G-U	1.46	0.86	● Light green	50
19	TN-19G-U	1.18	0.68	● Yellow	50
20	TN-20G-U	1.06	0.56	● Pink	50
21	TN-21G-U	0.92	0.46	● Purple	50
22	TN-22G-U	0.84	0.38	● Blue	50

Note: For specifying needle length, the length from needle base should be notified. Contact our sales department for further information.

PTFE nozzle

Needle material: Fluorine resin
Needle base material: Polyacetal

Measurement unit (mm)



Gauge	Needle length 8 mm	Nozzle OD (φ)	Nozzle ID (φ)	Color	Quantity (pcs per a pack)
	Model				
13	TN-13G	2.10	1.50	● Ivory	50
14	TN-14G	1.95	1.35	● Blue	50
15	TN-15G	1.79	1.19	● Gray	50
16	TN-16G	1.67	1.07	● Ivory	50
17	TN-17G	1.56	0.96	● Yellow	50
18	TN-18G	1.46	0.86	● Gray	50
19	TN-19G	1.18	0.68	● Light green	50
20	TN-20G	1.06	0.56	● Light pink	50
21	TN-21G	0.92	0.46	● Light blue	50
22	TN-22G	0.84	0.38	○ White	50

Note: For specifying needle length, the length from needle base should be notified. Contact our sales department for further information.

SUS guide PTFE nozzle

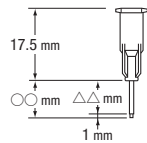


Excellent performance in high-precision dispensing of anaerobic fluid materials

Best suited for dispensing fluid materials that cannot be used with metal needles.
Stainless steel guide is attached to prevent the needle tip blur.

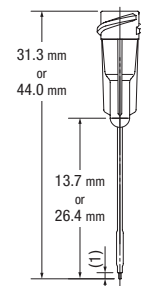
Needle material: Fluorine resin
Guide material: Stainless steel
Needle base material: Polyacetal

Measurement unit (mm)



Gauge	Model	SUS guide OD (φ)	PTFE nozzle ID (φ)	Color	Quantity (pcs per a pack)
16	TN-16G-○○-13G-△△L	2.42	1.07	Ivory	1
17	TN-17G-○○-14G-△△L	2.01	0.96	Yellow	1
18	TN-18G-○○-14G-△△L	2.01	0.86	Gray	1
19	TN-19G-○○-15G-△△L	1.82	0.68	Light green	1
20	TN-20G-○○-16G-△△L	1.67	0.56	Light pink	1
21	TN-21G-○○-17G-△△L	1.56	0.46	Light blue	1
22	TN-22G-○○-18G-△△L	1.22	0.38	Brown	1

Note: 1. ○○ shows the PTFE nozzle length between 4 mm and 50 mm
△△ shows the SUS guide length between 3 mm and 49 mm
2. Specify the length of SUS guide 1 mm shorter than the PTFE nozzle.
e.g., If you want to order a 20 mm-long 19G PTFE nozzle, the item number is "TN-19G-20L-15G-19L".



Ultra-fine needle type

Measurement unit (mm)

Needle length 13.7 mm	Needle length 26.4 mm	PTFE nozzle OD (φ)	PTFE nozzle ID (φ)	Color	Quantity (pcs per a pack)
TN-0.3-13.7-SUSG	TN-0.3-26.4-SUSG	0.5	0.3	Pink	1
TN-0.2-13.7-SUSG	TN-0.2-26.4-SUSG	0.4	0.2	Purple	1
TN-0.1-13.7-SUSG	TN-0.1-26.4-SUSG	0.3	0.1	Orange	1

Needle material: Fluorine resin
Guide material: Stainless steel
Needle base material: Polypropylene

Curve needle



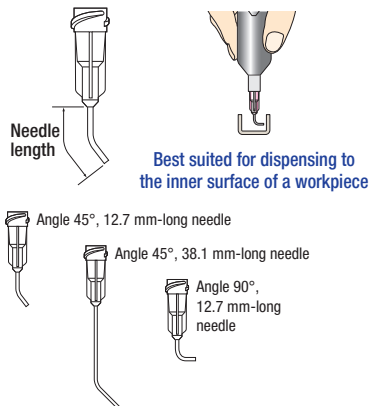
Best suited for dispensing to the inner surface of a workpiece

Two types of angles and a wide variations allow for various applications.
Double thread screw design enables the needle to be installed securely on the syringe.

Needle material: Stainless steel
Needle base material: Polypropylene

Measurement unit (mm)

Gauge	Angle 45°		Angle 90°	Needle OD (φ)	Needle ID (φ)	Color	Quantity (pcs per a pack)
	Needle length 12.7 mm	Needle length 38.1 mm	Needle length 12.7 mm				
	Model	Model	Model				
14	CPN-14G-A45	CPN-14G-B45	CPN-14G-A90	1.83	1.52	Dark green	50
15	CPN-15G-A45	—	CPN-15G-A90	1.65	1.37	Brown	50
18	CPN-18G-A45	CPN-18G-B45	CPN-18G-A90	1.27	0.84	Light green	50
20	CPN-20G-A45	—	CPN-20G-A90	0.91	0.58	Pink	50
21	CPN-21G-A45	CPN-21G-B45	CPN-21G-A90	0.81	0.51	Purple	50
22	CPN-22G-A45	—	CPN-22G-A90	0.71	0.41	Blue	50
23	CPN-23G-A45	—	CPN-23G-A90	0.64	0.33	Orange	50
25	CPN-25G-A45	—	CPN-25G-A90	0.51	0.25	Rose	50
27	CPN-27G-A45	—	CPN-27G-A90	0.41	0.20	White	50
30	CPN-30G-A45	—	CPN-30G-A90	0.30	0.15	Light purple	50





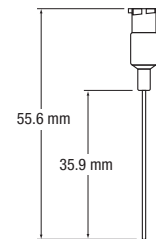
Soft needle



Soft touch, and no damage on workpiece

Soft and flexible needle prevents damage to workpieces and reduces a fraction defective. Especially effective for dispensing onto narrowly arranged workpieces. Can be used for dispensing anaerobic fluid materials.

Needle material: Polypropylene
Needle base material: Polypropylene



Measurement unit (mm)

Gauge	Needle length 35.9 mm	Needle OD (φ)	Needle ID (φ)	Color	Quantity (pcs per a pack)
	Model				
15	PPN-15G	1.83	1.37	● Dark gray	50
16	PPN-16G	1.70	1.19	● Brown	50
18	PPN-18G	1.35	0.81	● Pink	50
20	PPN-20G	0.99	0.61	● Yellow	50
22	PPN-22G	0.81	0.38	● Black	50
25	PPN-25G	0.74	0.33	● Red	50

Brush nozzle



Surface dispensing efficiency remarkably improved

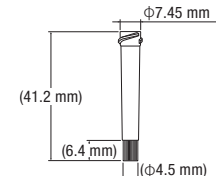
Wide-area surface dispensing difficult with a needle type nozzle can be performed. Double thread screw design securely install the nozzle on the syringe. Polyester fiber with high solvent resistance is used for brush. Two types are available: standard type and soft type.

Brush material: Polyester fiber
Needle base material: Polypropylene
Pipe material: Stainless steel
Cap material: Brass (Nickel plate)

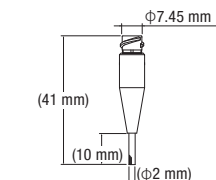
Measurement unit (mm)

Model	Hardness	Brush material	Quantity (pcs per a pack)
BN-S1	Standard type	Polyester fiber	1
BN-S2	Soft type	Polyester fiber	1
BN-S3	Standard type	Polyester fiber	1
BN-S4	Soft type	Polyester fiber	1

BN-S1/BN-S2



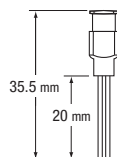
BN-S3/BN-S4



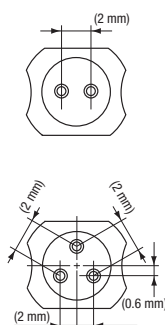
Note: The values in () are for reference purposes only.

Multi-Point Dispensing needle

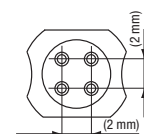
Twin needle



3-pin needle



4-pin needle



Excellent performance in simultaneous multi-point dispensing

Simultaneous multi-point dispensing will shorten tack time to half to one-fourth!

Needle material: Stainless steel

Needle base material: Brass (Nickel plate)

Measurement unit (mm)

Gauge	Needle length 20 mm			Needle OD (φ)	Needle ID (φ)	Quantity (pcs per a pack)
	Twin needle Model	3-pin needle Model	4-pin needle Model			
16	DN-16G	—	—	1.67	1.19	1
17	DN-17G	—	—	1.56	1.04	1
18	DN-18G	DN-18G-3P	—	1.22	0.86	1
19	DN-19G	DN-19G-3P	—	1.00	0.68	1
20	DN-20G	DN-20G-3P	—	0.91	0.58	1
21	DN-21G	DN-21G-3P	DN-21G-4P	0.83	0.49	1
22	DN-22G	DN-22G-3P	DN-22G-4P	0.72	0.39	1
23	DN-23G	DN-23G-3P	DN-23G-4P	0.63	0.32	1
24	DN-24G	DN-24G-3P	DN-24G-4P	0.57	0.29	1
25	DN-25G	DN-25G-3P	DN-25G-4P	0.50	0.26	1
26	DN-26G	DN-26G-3P	DN-26G-4P	0.46	0.24	1
27	DN-27G	DN-27G-3P	DN-27G-4P	0.41	0.20	1
28	DN-28G	DN-28G-3P	DN-28G-4P	0.35	0.15	1

Note: 1. Customization of products with needle pitch and length specified is available.
2. The values above are different from the needle pipe diameters of SN needles.

Nozzles with stoppers



Stopper structure introduced to maintain constant clearance.

High-precision dispensing available even for unstable workpieces.

Needle material: Stainless steel

Needle base material: Stainless steel

Stopper material: Stainless steel, others

Custom-made nozzle



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

Nozzle kit

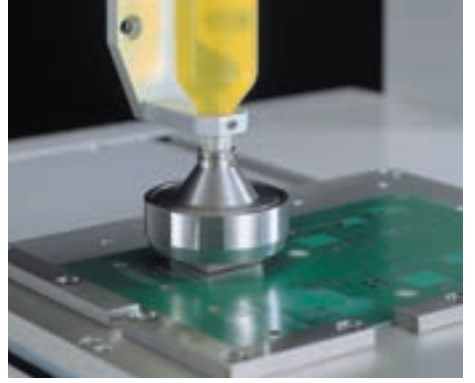


This kit is convenient for dispensing conditioning at manufacturing and R&D sites, which contains various needles and nozzles.

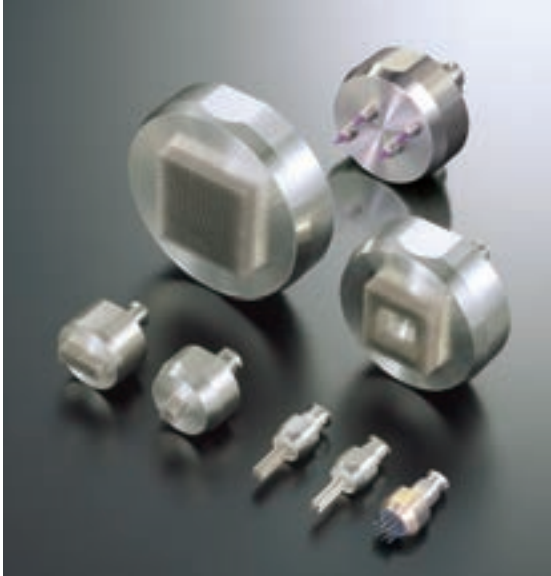
Contents of nozzle kit

- Soft needle
- Double thread screw tapered nozzle
- PTFE nozzle
- PTFE nozzle with SUS guide
- Metal needle
- Brush nozzle
- Double thread screwed plastic needle
- Sharp needle
- Curve needle

Item name	Model
Nozzle kit	NK-2
Nozzle kit case	NKC-2



Multi nozzles



Customization of pin placement and length according to dispensing pattern

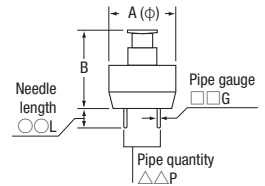
Simultaneous multi-point dispensing will shorten your tack time. Various dispensing patterns are supported.

Needle material: Stainless steel

Needle base material: Stainless steel

Item name
Multi nozzles MN◇◇-□□G-○○L-△△P [standard]

Note: Specify the cap size, pipe gauge, needle length, pipe quantity, and pipe layout.



Measurement unit (mm)

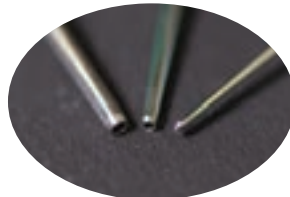
Model	Cap dimensions	
	A (φ)	B
MN10	10	15
MN13	13	19
MN15	15	22
MN17	17	22
MN19	19	22
MN21	21	22
MN23	23	25
MN25	25	25
MN27	27	25

Measurement unit (mm)

Pipe gauge	Needle OD (φ)	Needle ID (φ)
12	2.99	2.30
13	2.42	1.80
14	2.01	1.58
15	1.82	1.37
16	1.67	1.19
17	1.56	1.04
18	1.22	0.86
19	1.00	0.68
20	0.91	0.58
21	0.83	0.49
22	0.72	0.39
23	0.63	0.32
24	0.57	0.29
25	0.50	0.26
26	0.46	0.24
27	0.41	0.20
28	0.35	0.15

Note: Sizes other than those shown above are also available. Please contact our sales department.

Lineup of sharp-needle specifications for micro-dispensing



Sharpening processing of needle tip

Syringe installation section

Standard luer lock type



Double threaded screw type*



Two types of syringe installation sections are available: standard luer lock type and double threaded screw type*.

The double threaded screw type* ensures secure installation of the needle on the syringe.

* The double threaded screw type is available by special order.

Slit nozzle



Ideal for uniform surface Dispensing

Thin film formation with thicknesses of several hundred micrometers or less is also supported.

Production example

Slit width	10 mm	20 mm	30 mm

Note: Sizes other than those shown above are also available. Please contact our sales department.

Best items for each situations

By supporting customers at all levels of high precision dispensing, we can be real partners. MUSASHI offers an extensive lineup of accessories that improve work efficiency and parts that connect a variety of peripheral devices. We respond to detailed workplace needs and follow up in areas that are not visible from the outside. MUSASHI deliver the best item needed on the cutting edge of high-precision dispensing, to satisfy our customers.

Fluid accessories

Needle adapter



This adapter is used to connect the valves and cartridges to a needle.

Item name	Model	Suitable products	Wetted part material	Connector size	
Needle adapter	① [No.14]	P-NADP-14	For valves	Brass (Nickel plated)	R1/8
	② [No.15]	P-NADP-15		Fluorine coated	
	③ [No.12]	P-NADP-12	For barrels	Brass (Nickel plated)	R1/4
	④ [No.13]	P-NADP-13		Fluorine coated	
	⑤ [No.11]	P-NADP-11		Brass (Nickel plated)	
	⑥ [No.17]	P-NADP-17	MPP-1, DHG, Valve, Syringe, Nozzle (CPN, DN, Multi nozzle, Slit nozzle) *Mounting direction adjustable	Stainless steel, Fluorocarbon resin, Brass (Nickel plated)	Double thread screwed luer lock plug

Fluid accessories

Fluid feed tube connector



Fittings to connect Fluid feed tube to Syringe, Needle, Valve, Tank, Cartridge, etc. Select according to the characteristics of the fluid material to be dispensed and the shape of the mounting.

Item name	Model	Shape	Tube size	Connector size	Material	Applications
Fluid feed tube connector	① J-R-3	Straight	OD 3 mm	Double thread screwed luer lock plug	Fluorine resin	For connection between syringe and tube
	② J-RT-3	Straight	OD 3 mm	Double thread screwed luer lock socket	Fluorine resin	For connection between nozzle and tube
	③ J-B2B-6	Straight	For φ6×4	R1/4	Fluorine resin	For connection between valve or suction pipe for tank and tube
	④ J-46BS	Straight	For φ6×4	R1/8	Brass	
Fluid feed elbow tube connector	⑤ J-L1B-6	Elbow	For φ6×4	R1/8	Stainless steel	For connection between high pressure valve or suction pipe for tank and tube
	⑥ J-L1B-48HP	Elbow	For φ8×4	R1/8	Brass	
	⑦ J-L2B-48HP	Elbow	For φ8×4	R1/4	Brass	

Air accessories

Pneumatic quick joint



These are compressed air fittings that can connect dispensing controllers, cartridges, or fluid feed tanks quickly to various air pipes.

	Item name	Model
Pneumatic quick joint	① [Plug Rc1/8]	QP-1N
	② [Plug Rc1/4]	QP-2N
	③ [Plug R1/8]	QP-1B
	④ [Plug R1/4]	QP-2B
	⑤ [Plug for OD6×ID3 barbed joint]	QP-TK1
Pneumatic quick joint	⑥ [Socket Rc1/8]	QS-1N
	⑦ [Socket Rc1/4]	QS-2N
	⑧ [Socket Rc1/4 without valve]	QS-2NN
	⑨ [Socket R1/4]	QS-2B
	⑩ [Socket for OD6×ID3 barbed joint]	QS-TK1

Fluid accessories

Luer lock type extension tube



An extension tube used to connect a syringe to a needle/nozzle. It is used for dispensing a fluid material at a distance from the syringe.

Item name	Model	Tube length	Material
Luer lock type extension tube	LT-23EX	49.8 cm	Tube: Polyethylene Joint: Polyethylene

Fluid accessories

Fluid feed tube



Fluid feed tube Special tube for transferring fluid.

	Item name	Model	Length to specify
Fluid feed tube	① [OD6×ID4 Nylon white]	LT-46	In units of 1 m
	② [OD6×ID4 Fluorine resin white]	LT-46T	
	[OD8×ID4 Nylon white for high pressure]	LT-48HP	

Air accessories

Air connector tube



Tubes to supply air to the cartridge.

	Item name	Model	Tube length
Air connector tube	[QJ plug, OD6 mm 1 m]	CT-36P	1 m
	[QJ plug QJ socket 1 m]	CT-36PS	1 m
	[QJ plug QJ socket Σ use 1 m]	CT-58PS-SIGMA	1 m

Note: This product can be ordered with length specification (in units of 0.5 m). The following example shows how to specify the length.
e.g., For ordering a 2.5 m-long air connector tube for the cartridge, the item number is "CT-36PS-2.5M".

Air accessories

Pneumatic joints



Fittings to connect Various air piping to Dispenser, Cartridge, Valve, Tank, etc.

	Item name	Model
Pneumatic joints	① Pneumatic barbed joint [R1/4 OD10×ID8 use]	TK-2B
	② Pneumatic half union [R1/4 OD6 mm use]	J-U2B-6
	③ Pneumatic elbow union [R1/4 OD6 mm use]	J-LU2B-6

Air accessories

Regulator/air gauge, filter/regulator



- ① Regulator/air gauge**
Used to set and indicate the air pressure supplied to a container.
- ② Filter/regulator**
Used to clean the air to supply the air to a dispenser.

Item name	Model
① Regulator/air gauge* [0.2 MPa]	RA-2B
[0.7 MPa]	RA-7B
② Filter/regulator	F/R-4

* Consists of a regulator, air gauge, and PT conversion adapter.

Other accessories

Handy switch



This is a hand switch for manual operation that is attached to the tip of the syringe to control dispensing ON/OFF at hand. This switch supports 3 to 70 mL syringes.

Item name	Model	Code length	
Handy switch	① [LS-2T DSUB 25 pin]	LS-2T-DSUB25-1.5M	1.5 m
	[LS-2T type16 4 pin]	LS-2T-1604P	1.5 m
	② [LS-3T DSUB 25 pin]	LS-3T-DSUB25-1.5M	1.5 m
	[LS-3T type16 4 pin]	LS-3T-1604P	1.5 m
Conversion cable*	[TYPE 16 4 PIN DSUB 25 PIN]	CB-1604A-CNV-DSUB25	—

* This cable converts 4-pin specifications to DSUB specifications.

Other accessories

Foot switch



This is a foot switch for manual operation that controls ON/OFF of discharge at your feet. The shape of the metal outlet differs depending on the dispenser used. Please choose according to the dispenser model you use.

Item name	Model	Cord length	
Foot switch	① [DSUB 25 pin]	FS/W-2-DSUB25-2.0M	2 m
	② [Type16 4 pin]	FS/W-2-1604P	2 m

Other accessories

Dispense handgun



Stable handy dispensing without both pneumatic source and power supply. The amount of pulling the trigger controls dispensing volume.

Item name	Model	Remarks	
Dispense handgun	[5 mL]	DHG-5E	1 ratchet rod supplied
	① [10 mL]	DHG-10E	
	[30 mL]	DHG-30E	
	② [50 mL]	DHG-50E	

Note: This dispense handgun does not include a syringe, MLP plunger, and needle.

Air accessories

Air hose



Used to supply air pressure from the air source to the dispenser.

Item name	Model	Length to specify
Air hose [OD 6 mm ID4 mm black]	AH-46	In units of 1 m

Other accessories

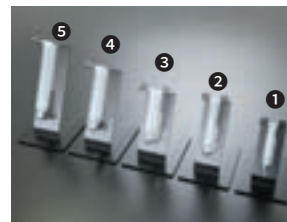
Syringe stand



A stand for storing syringes upright during and after work. Please select from 3 sizes according to the syringe size you use.

Item name	Model	
Syringe stand	① [5 mL use type A]	SYS-1A
	② [10 mL use type A]	SYS-2A
	③ [20 to 50 mL use type A]	SYS-3A
Nozzle dryness prevention cap [SYS-1/2/3A use]	SYS-CAP	

Syringe stand for when using handy switch



Item name	Model	Applicable nozzles	
Syringe stand	① [5 mL use LS-3T/2T use]	SYS-5B	—
	② [For 10 mL syringe LS-3T/2T use]	SYS-10B	
	③ [For 20 mL syringe LS-3T/2T use]	SYS-20B	
	④ [For 30 mL syringe LS-3T/2T use]	SYS-30B	
	⑤ [For 50 mL syringe LS-3T/2T use]	SYS-50B	
Nozzle dry reduction cap	[For SYS-B ID:7.0 with LS-3T]	SYS-CAP-7	SHN, DPN, SPN, PN, TPND, TN, BN-S1/S2
	[For SYS-B ID:7.0 with LS-3T]	SYS-CAP-8.5	FN, HN, SNA, DN, PPN, BN-S3/S4
	[For SYS-B ID:10.0 with LS-2T/ No handy switch]	SYS-CAP-10	Musashi standard nozzles (excluding CPN and MN)

Other accessories

Metal connector



Used to connect a dispenser to an external signal.

Item name		Model
Metal connector	[Plug type16 2 pin]	MC-1602P
	[Plug type16 3 pin]	MC-1603P
	[Plug type16 4 pin]	MC-1604P

Other accessories

H type stand set



This stand fixes a cartridge and valve at your preferred height.

Components

Item name	Model
H-type stand	HS-1
H-type stand unit clamp	SH-2
H-type stand clamp holder	CL-1

Note: To use it as a set, please purchase the three items: H-type stand, unit clamp, and clamp holder.

Tubing dispenser accessories

Dispenser pen for tubing dispenser



External input switch for tubing dispenser (MT series).

Item name	Model	Code length
Dispenser pen [LS-NH3 type16 4 pin]	LS-NH3-1604P	1 m

PTFE tube for tubing dispenser



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.

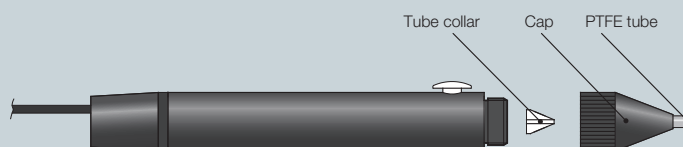
Note: For UV adhesive, use PTFE tube, black, TT-□B (black tube).

PTFE tube

PTFE tube	PTFE tube, black (for UV adhesive)	Tube OD (φ) mm	Tube ID (φ) mm	Tube length
Model	Model			
TT-32	—	0.75	0.25	10 m
TT-30	TT-30B	0.76	0.30	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

Dedicated tube collar/cap application chart

Model	PTFE tube	Tube collar type	Cap
	TT-32	TT-30/TT-30B TT-28/TT-28B TT-26/TT-26B TT-24/TT-24B	LS-NH3-C4
TT-30/TT-30B	LS-NH3-TG8		
TT-28/TT-28B	LS-NH3-TG7		
TT-26/TT-26B	LS-NH3-TG7		
TT-24/TT-24B	TT-22/TT-22B TT-21/TT-21B TT-20/TT-20B	LS-NH3-C3	LS-NH3-TG6
TT-22/TT-22B			LS-NH3-TG5
TT-21/TT-21B			LS-NH3-TG4
TT-20/TT-20B	TT-19/TT-19B TT-18/TT-18B TT-17/TT-17B TT-16/TT-16B	LS-NH3-C2	LS-NH3-TG4
TT-19/TT-19B			LS-NH3-TG3
TT-18/TT-18B			LS-NH3-TG3
TT-17/TT-17B			LS-NH3-TG2
TT-16/TT-16B	TT-15/TT-15B	LS-NH3-C1	LS-NH3-TG2
TT-15/TT-15B			LS-NH3-TG2
TT-14	—	—	LS-NH3-TG1

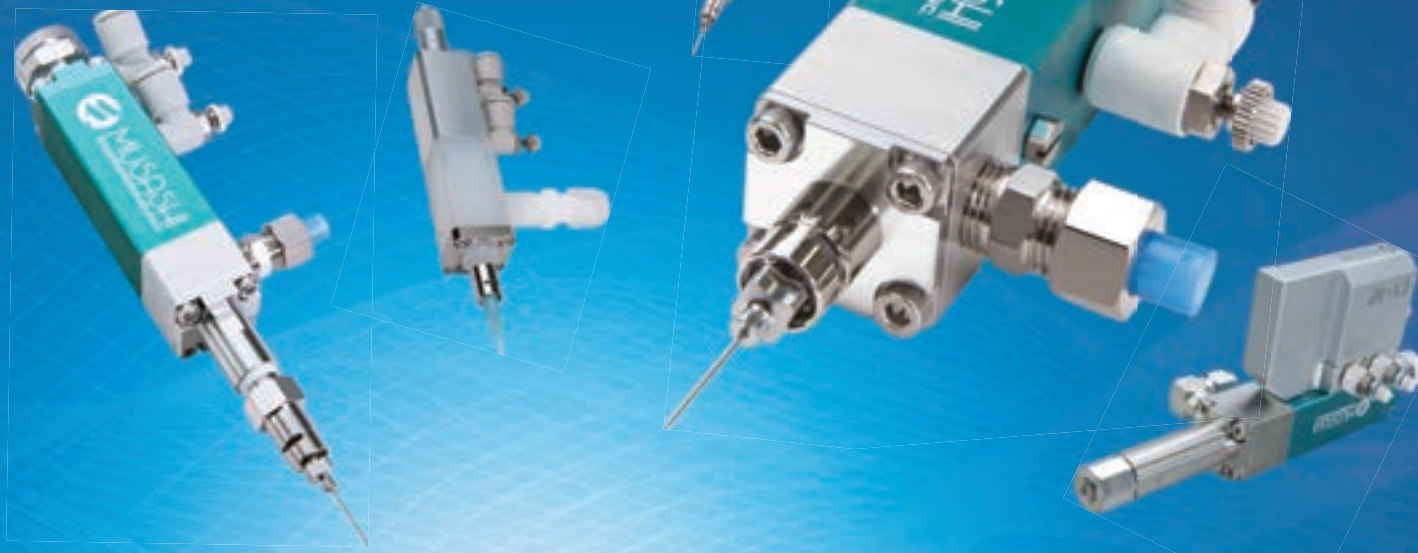


High precision dispensing valves respond to high-level requirements with no compromise.

High productivity, stability, reliability, durability, and maintainability are required of uncompromising professionals. To meet all these requirements, MUSASHI has brought together all of our dispensing experience and know-how to develop these fluid dispensing valves.

These valves enable stably high-precision dispensing at all times while preventing fluid drips.

A variety of accessories are available to suit various dispensing system requirements, such as different dispensing applications and types of fluid materials.

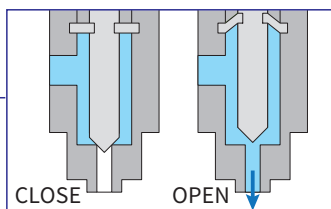


Valve features

Needle control valve

Achieves stable and continuous micro-dispensing with good response.

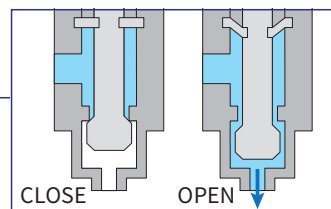
NCV series



Piston control valve

Suck back mechanism for superior fluid cut-off.

PCV series



Valve Controller List

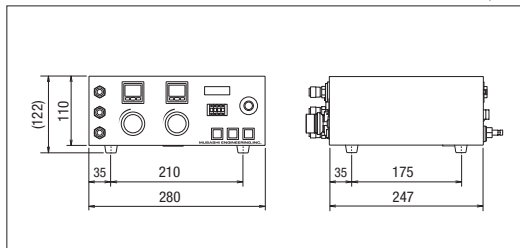
	Needle control valve		Piston control valve	Volume measuring quantitative dispensing valve	Diaphragm valve	Coating valve	Spray valve	Volumetric metering pumps
Valves	<ul style="list-style-type: none"> • NCV-17 • NCV-17-S6 	<ul style="list-style-type: none"> • NCV-17-L(High flow) • NCV-17-L-RS(High flow/ Anaerobic support) 	<ul style="list-style-type: none"> • PCV-12 	<ul style="list-style-type: none"> • PPV-5 	<ul style="list-style-type: none"> • DCV-2 	<ul style="list-style-type: none"> • CV-12 	<ul style="list-style-type: none"> • SV-6 	<ul style="list-style-type: none"> • JUSTRO PUMP (MJP-05/13)
	<ul style="list-style-type: none"> • NCV-12S • NCV-10 • NCV-10-T • NCV-10-U 	<ul style="list-style-type: none"> • NCV-7DV (Anaerobic support) • HPV-2NC(High-pressure support) 	<ul style="list-style-type: none"> • PCV-12-L (High flow) 	<ul style="list-style-type: none"> • DCV-3 	<ul style="list-style-type: none"> • CV-10 	<ul style="list-style-type: none"> • SVM-6LX 		
Controller	Valve controller : ME-5000VT					Spray valve controller : ME-5000SP	Pump controller : ME-5000P	

Valve controller



External dimensions

Measurement unit (mm)



VALVE MASTER ME-5000VT

Achieves high-precision, stable dispensing performance of valves

- Improved pressure stability eliminates dispensing volume fluctuation.
- Digital control enables user-friendly operability and high repeatability
- Dispensing conditions centrally controllable by the controller.
- Dispensing monitorable by improved external interface, perfectly suited to mount on other equipment.
- CE Marking certified, EU RoHS2 compliant.

Specifications

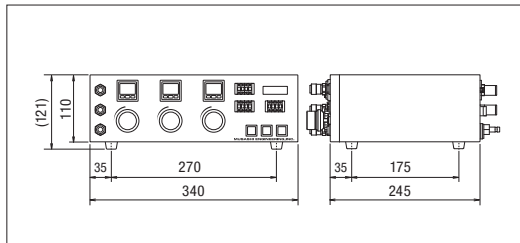
Model		ME-5000VT
Control system		Electro/pneumatic method
Pressure setting range	Fluid feed pressure	0.005 to 0.700 MPa
	Valve actuation pressure	0.200 to 0.700 MPa
Time setting range of fluid valve opening		0.01 to 99.99 s 0.010 to 9.999 s 0.1 to 999.9 s
External input/output signal	Input	Dispensing, dispensing mode switching
	Output	Dispensing completion, in-dispensing, low fluid feed pressure, low valve actuation pressure, dispensing mode, power on
Rated power supply and frequency		AC100-240 V 50/60 Hz
Power consumption		12 W
External dimensions		W280xD247xH122 mm
Weight		4.3 kg

Spray valve controller



External dimensions

Measurement unit (mm)



SPRAY MASTER ME-5000SP

Two-fluid spray valve controller with high-precision digital control

- Interval setting creates a time difference between blowing pressure and driving to prevent dripping.
- Digital control enables user-friendly operability and high repeatability.
- Dispensing conditions centrally controllable by the controller.
- Dispensing monitorable by improved external interface, perfectly suited to mount on other equipment.
- CE Marking certified, EU RoHS2 compliant.

Specifications

Model		ME-5000SP
Control system		Electro/pneumatic method
Pressure setting range	Fluid feed pressure	0.010 to 0.700 MPa
	Valve actuation pressure	0.200 to 0.700 MPa
	Blow pressure	0.010 to 0.700 MPa
Time setting range of fluid valve opening		0.01 to 99.99 s 0.010 to 9.999 s 0.1 to 999.9 s
Blow time setting range	Before valve actuation	0.000 to 9.999 s
	After valve actuation	0.000 to 9.999 s
External Input/output signal	Input	Dispensing, dispensing mode switching
	Output	Dispensing completion, in-dispensing, pressurizing, low fluid feed pressure, low valve actuation pressure, low blow pressure, dispensing mode, power on
Rated voltage and frequency		AC100-240 V 50/60 Hz
Power consumption		32 W
External dimensions		W340xD245xH121 mm
Weight		5.8 kg

Pump controller



PUMP MASTER ME-5000P

For JUSTRO PUMP

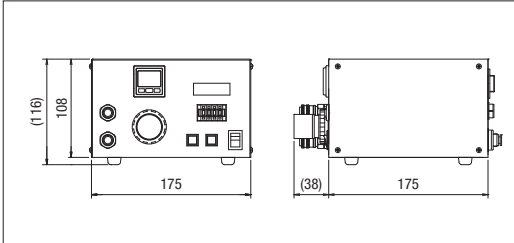
- CE Marking certified, EU RoHS compliant.

■ Specifications

Model	ME-5000P	
Control system	Electro/pneumatic method	
Valve actuation pressure setting range	0.200 to 0.700 Mpa	
Time setting range of fluid valve opening	0.010 to 9.999 s 0.01 to 99.99 s 0.1 to 999.9 s 1 to 9999 s	
External Input/ output signal	Input	Dispense
	Output	Dispensing completion
Rated voltage and frequency	AC100-240 V 50/60 Hz	
Power consumption	5 W	
External dimensions	W175×D175×H108 mm	
Weight	2.0 kg	

■ External dimensions

Measurement unit (mm)



Example of system mounting



Valve and tank system

Valve controller : ME-5000VT
Piston control valve : PCV-12
Straight one touch tank : SOT-4.6L



Spray valve and tank system

Spray valve controller : ME-5000SP
Spray valve : SV-6
Straight one touch tank : SOT-4.6L



Desktop robot + pump mounted

Pump controller : ME-5000P
Volume measuring
type plunger pump : JUSTRO PUMP
Desktop type robot : SM200SX

Needle control valve

MiniVal NCV-17

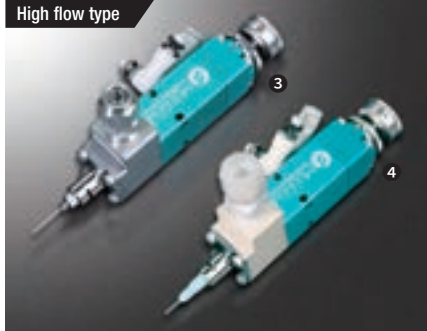


Needle control valve

MiniVal NCV-17-L

MiniVal NCV-17-L-RS

High flow type



High-precision standard valve

- Also capable of micro-deposit dispensing fluid materials containing UV and filler.
- Reduces air bubbles mixing.
- Diaphragm structure prevents fluid material from entering sliding parts.
- The square-shaped, compact and lightweight valves are ideal for use with automated equipment.
- High flow type are also available with approx. 3x fluid flow rate.

Valve controller
ME-5000VT



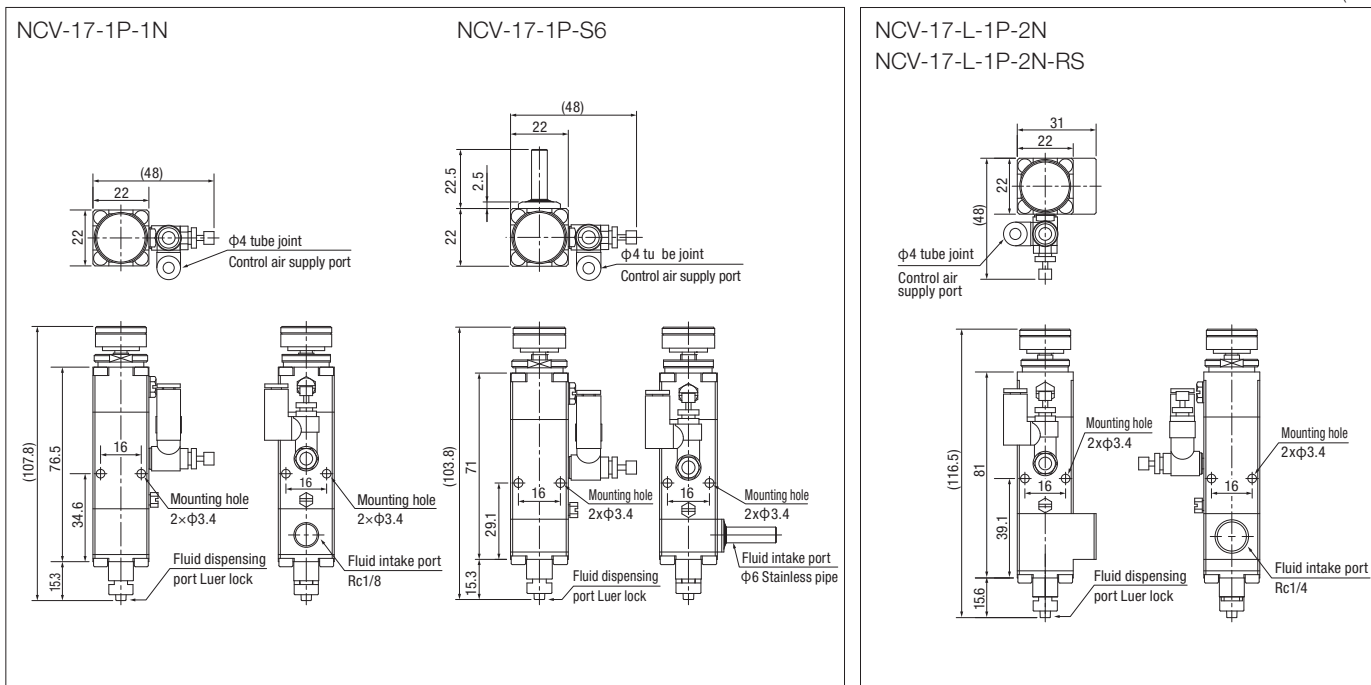
Specifications

	① Type17 1 port	② Type17 1 port OD 6 mm SUS pipe attached	③ Type17 1 port high flow	④ Type17 1 port high flow rate resin specification
Model	NCV-17-1P-1N	NCV-17-1P-S6	NCV-17-L-1P-2N	NCV-17-L-1P-2N-RS
Driving system	Pneumatic driven system			
Minimum dispensing amount	3 μ L		9 μ L	
Compatible viscosity	Up to 50 Pa·s			
Control air supply pressure range	0.35 to 0.5 MPa			
Fluid material supply pressure range	Max. 0.5 Mpa			
Maximum number of cycles	680 times/min.			
Connector size	Fluid intake port	Rc1/8 (fluid feed joint ordered separately)	OD 6 mm Stainless pipe (fluid feed joint ordered separately)	Rc1/4 (fluid feed joint ordered separately)
	Fluid dispensing port	Luer lock		
Control air	One-touch joint for ϕ 4 outer diameter tube (with speed controller)			
Operating temperature range	5 to 60°C			
Wetted part material	Stainless steel, Fluorine resin, Polyacetal		Stainless steel, Fluorine resin	PEEK, fluorine resin
Weight	193 g	216 g	222 g	149 g

Note: The dose volume, compatible viscosity and maximum number of cycles shown in the specifications above are only for reference.

External dimensions

Measurement unit (mm)





Needle control valve **MiniVal NCV-12S** Super-small standard valve with overwhelming performance



- Stable dispensing of fluid materials containing filler.
- Achieves superior fluid cut-off.
- No leakage as well as long life.
- Diaphragm structure prevents fluid material from entering sliding parts.
- The ultra-compact size, rectangular shape, and lightweight valves are ideal for use with automated equipment.

Valve controller ME-5000VT

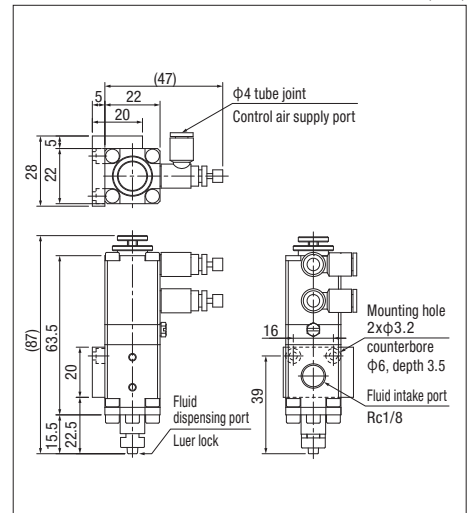
■ Specifications

Model	Type12S 2 port	
Driving system	Pneumatic driven system	
Minimum dispensing amount	8 μ L	
Compatible viscosity	\sim 50 Pa \cdot s	
Applicable fluid materials	Fluid containing filler and other low and medium viscosity fluids	
Control air supply pressure range	0.35 to 0.5 MPa	
Fluid material supply pressure range	Max. 0.5 Mpa	
Maximum number of cycles	640 times/min.	
Connector size	Fluid intake port	Rc1/8 (fluid feed joint ordered separately)
	Fluid dispensing port	Luer lock
	Control air	One-touch joint for ϕ 4 outer diameter tube (with speed controller)
Operating temperature range	5 to 60°C	
Wetted part material	Stainless steel, Fluorine resin, Aluminium alloy (anodized)	
Weight	149 g	

Note: The dose volume, compatible viscosity, material type, and maximum number of cycles shown in the specifications above are only for reference.

■ External dimensions

Measurement unit (mm)



Needle control valve **MiniVal NCV-10** The compact and lightweight valves handle a variety of fluid materials and applications



- Stable dispensing of fluids containing filler.
- One-port control system that can be reused easily from a syringe system.
- Two-port control system that is best suited for more high-precision dispensing.
- Fluorine resin type suitable for dispensing corrosive or anaerobic fluid materials, and UV material-supported type are also available.

Valve controller ME-5000VT

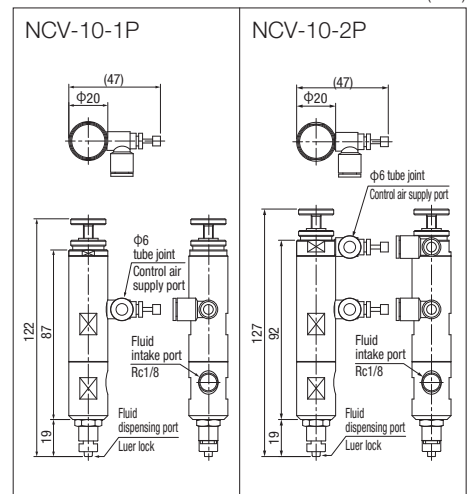
■ Specifications

Model	NCV-10-1P	NCV-10-2P
Driving system	Pneumatic driven system	
Minimum dispensing amount	9 μ L	8 μ L
Compatible viscosity	Up to 50 Pa-s	
Control air supply pressure range	0.35 to 0.5 MPa	0.3 to 0.5 MPa
Fluid material supply pressure range	Max. 0.5 Mpa	
Maximum number of cycles	640 times/min.	680 times/min.
Connector size	Fluid intake port	Rc1/8 (fluid feed joint ordered separately)
	Fluid dispensing port	Luer lock
	Control air	One-touch joint for ϕ 6 outer diameter tube (with speed controller)
Operating temperature range	5 to 60°C	

Note: The dispensing volume, compatible viscosity, and max. response count shown in the specifications above are only for reference.

■ External dimensions

Measurement unit (mm)

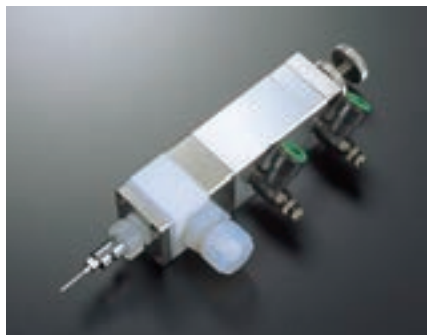


■ Models

	Valve type	Model	Wetted part material	Applicable fluid materials	Weight
Type 10	1 port	NCV-10-1P	Stainless steel, Fluorine resin, Aluminium alloy (anodized)	Low and medium viscosity fluids	140 g
	2-port	NCV-10-2P			
	1 port fluorine resin	NCV-10-T-1P	Stainless steel (fluorine resin coated), Fluorine resin	Anaerobic material, materials containing fillers	120 g
	2 port fluorocarbon polymers	NCV-10-T-2P			
	1 port UV	NCV-10-U-1P	Stainless steel (Fluorocarbon coated), Stainless steel, Polyacetal	UV materials	120 g
	2 port UV	NCV-10-U-2P			

Note: The applicable fluid materials are only for reference.

Needle control valve



- Since the wetted part is made of fluorine resin, this valve is suitable for dispensing fixed doses of anaerobic fluid materials.
- A needle control valve that can dispense fixed doses of fluids containing fillers.

Valve controller
ME-5000VT



NCV-7DV Suitable for anaerobic materials

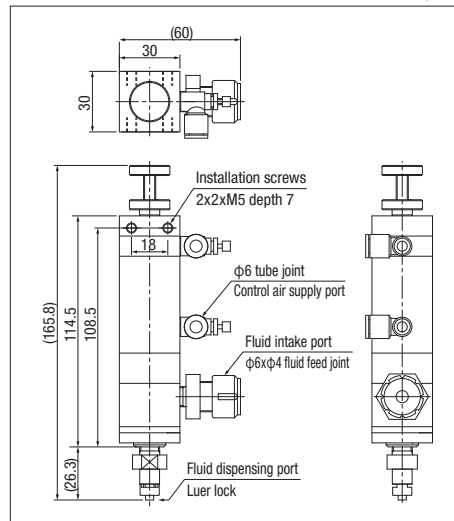
Specifications

	Type 7, 2 port, anaerobic, with NCV-7DV-25
Model	NCV-7DV-2P
Driving system	Pneumatic driven system
Minimum dispensing amount	8 μ L
Compatible viscosity	Up to 10 Pa·s
Applicable fluid materials	Anaerobic material, materials containing fillers
Control air supply pressure range	0.3 to 0.4 MPa
Fluid material supply pressure range	MAX. 0.7 MPa
Maximum number of cycles	650 times/min.
Connector size	Fluid intake port $\phi 6 \times \phi 4$ fluid feed fitting
	Fluid dispensing port Luer lock
Control air	One-touch joint for $\phi 6$ outer diameter tube (with speed controller)
Operating temperature range	5 to 50°C
Wetted part material	Fluorine resin, Fluororubber
Weight	450 g

Note: The dose volume, compatible viscosity, material type, and maximum number of cycles shown in the specifications above are only for reference.

External dimensions

Measurement unit (mm)



High pressure needle control valve



- Our unique design with high-pressure capability to prevent fluid material leaks.
- Easy maintenance.

Valve controller
ME-5000VT



HPV-2NC Designed exclusively for high viscosity materials

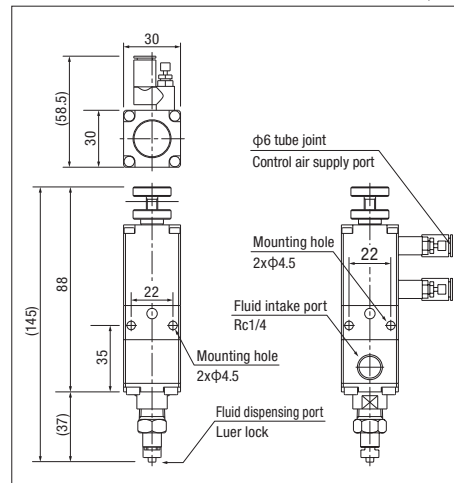
Specifications

	Type 2NC 2 port
Model	HPV-2NC-2 P
Driving system	Pneumatic driven system
Minimum dispensing amount	10 μ L
Compatible viscosity	Up to 300 Pa·s
Applicable fluid materials	Grease
Control air supply pressure range	0.35 to 0.6 MPa
Fluid material supply pressure range	Max. 20 Mpa
Maximum number of cycles	500 times/min.
Connector size	Fluid intake port Rc1/4 (fluid feed joint ordered separately)
	Fluid dispensing port Luer lock
Control air	One-touch joint for $\phi 6$ outer diameter tube (with speed controller)
Operating temperature range	5 to 60°C
Wetted part material	Stainless steel, fluorine resin, fluorine rubber, polyethylene
Weight	480 g

Note: The dispensing volume, compatible viscosity, and max. response count shown in the specifications above are only for reference.

External dimensions

Measurement unit (mm)





Piston control valve MiniVal **PCV-12**



The standard for preventing fluid drips and blockages

- Prevents fluid drips and blockages with suck back mechanism.
- Diaphragm structure prevents fluid material from entering sliding parts.
- The square-shaped, compact and lightweight valves are ideal for use with automated equipment.

Valve controller
ME-5000VT



Specifications

	Type 12 2 port	Type 12 2 port high flow
Model	PCV-12-2P	PCV-12-L-2P-2N
Driving system	Pneumatic driven system	
Minimum dispensing amount	18 μ L	19 μ L
Compatible viscosity	Up to 100 Pa-s	
Control air supply pressure range	0.35 to 0.6 MPa	
Fluid material supply pressure range	Max. 0.5 Mpa	
Maximum number of cycles	580 times/min.	
Connector size	Fluid intake port	Rc1/8 (fluid feed joint ordered separately)
	Fluid dispensing port	Luer lock
	Control air	One-touch joint for ϕ 6 outer diameter tube (with speed controller)
Operating temperature range	5 to 60°C	
Wetted part material	Stainless steel, Fluorine resin, Brass	
Weight	212 g	240 g

Note: The dispensing volume, compatible viscosity and material type, and max. response count shown in the specifications above are only for reference.

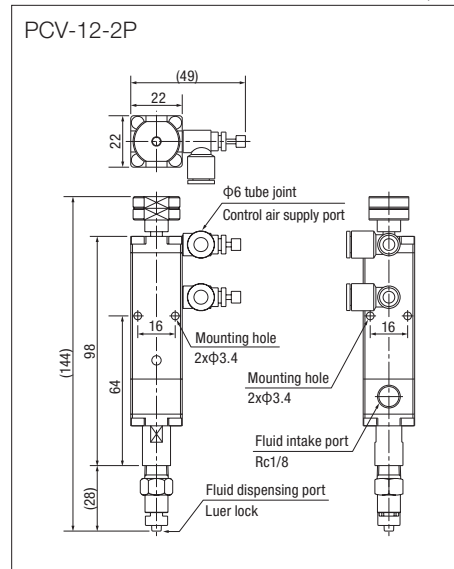
MiniVal **PCV-12-L**

High flow type



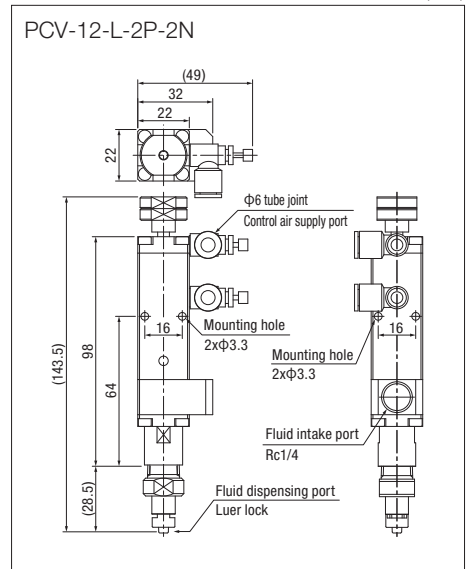
External dimensions

Measurement unit (mm)



External dimensions

Measurement unit (mm)



Plunger pump valve **PPV-5** Plunger pump system



- Volume measuring type quantitative dispensing valve with our unique mechanism for superior sealing.
- Dispensing volume setting with micrometer is accurate and simple.
- Excellent corrosion resistance.

Valve controller
ME-5000VT



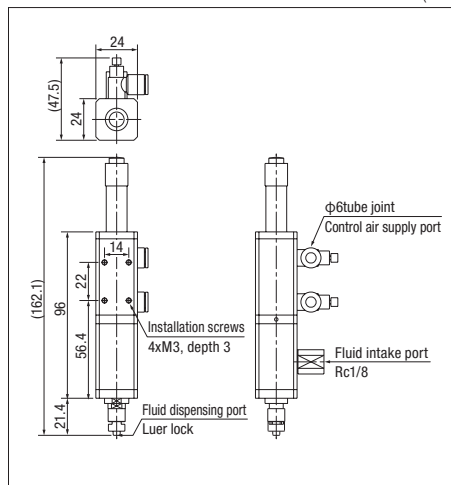
Specifications

	Type 5 2 port
Model	PPV-5-2P
Driving system	Pneumatic driven system
Dispensing volume range	1 to 90 μ L
Compatible viscosity	Up to 30 Pa·s
Applicable fluid materials	Low and medium viscosity fluids
Control air supply pressure range	0.05 to 0.5 MPa
Fluid material supply pressure range	Max. 0.33 Mpa
Maximum number of cycles	120 times/min.
Connector size	Fluid intake port
	Fluid dispensing port
	Control air
Operating temperature range	5 to 60°C
Wetted part material	Stainless steel, Fluorine resin, Artificial gemstone, Polyethylene
Weight	200 g

Note: The dose volume, compatible viscosity, material type, and maximum number of cycles shown in the specifications above are only for reference.

External dimensions

Measurement unit (mm)



Volume measuring type plunger pump **JUSTRO PUMP** Just measuring and dispensing, debut of precision plunger pump!



- Precise and constant-volume dispensing of low viscosity fluid.
Dispensing volume from 0.003 mL minimum to 250 mL maximum (depending on variations)
- High-speed dispensing with high cycle speed.
- Precise fluid control achieved"

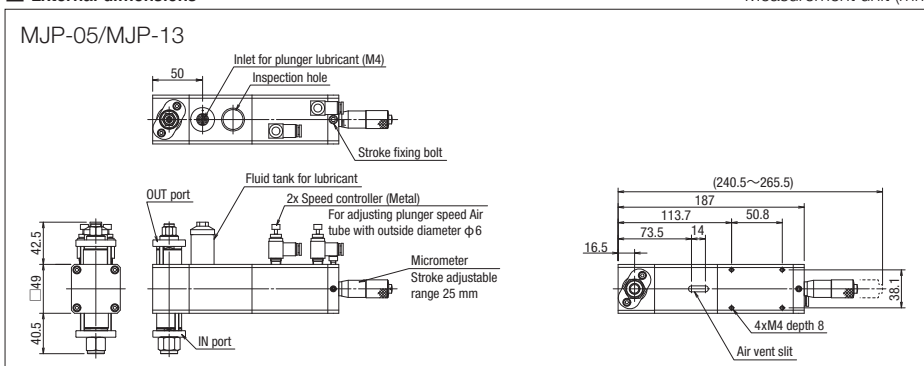
Specifications

	05 mL use	13 mL use
Model	MJP-05	MJP-13
Driving system	Pneumatic driven system	
Maximum dispensing volume*	5 mL	13 mL
Control air supply pressure range	0.35 to 0.6 MPa	
Stroke adjustment method	Micrometer	
Wetted part material	Stainless steel, Fluorine resin, PEEK	
Weight	3.2 kg	

* The dispensing volume is up to 250 mL, and many kinds of dispensing volumes are available.

External dimensions

Measurement unit (mm)



Coating valve **CV-12** Achieves sharp-edged dispensing without scattering



Specifications

	Type12	
Model	CV-12	
Driving system	Pneumatic driven system	
Compatible viscosity	1 to 100 mPa·s	
Control air supply pressure range	0.35 to 0.5 MPa	
Fluid material supply pressure range	Max. 0.5 Mpa	
Connector size	Fluid intake port	Rc1/8 (fluid feed joint ordered separately)
	Fluid dispensing port	Dedicated nozzle
	Control air	One-touch joint for $\phi 6$ outer diameter tube
	Purge air	One-touch joint for $\phi 4$ outer diameter tube
Wetted part material	Stainless steel, fluorine resin, polyacetal, cemented carbide	
Weight	360 g	

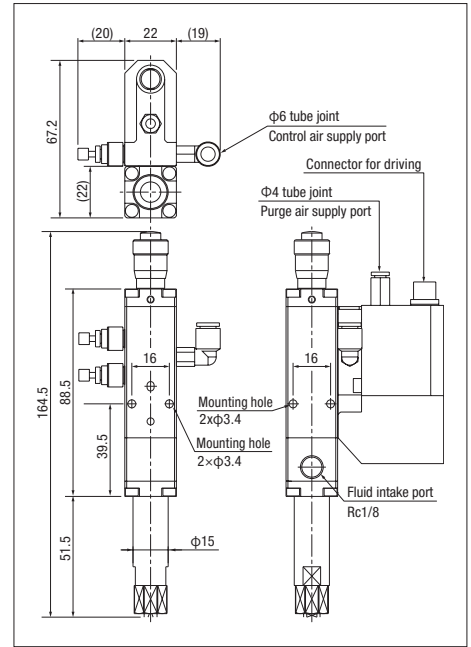
Valve controller
ME-5000VT



- Precision application shape enables partial coating.
- Low flow achieves wide area, ultra-thin coating.
- Shape adjustment available at start and stop points.
- Equipped with simplified explosion-proof specifications as standard.

External dimensions

Measurement unit (mm)



Coating valve **CV-10** Ideal for coating dispensing



Specifications

	Type 10 2 port	
Model	CV-10-2P-1N	
Driving system	Pneumatic driven system	
Compatible viscosity	to 100 mPa·s (must not include filler or other solids)	
Control air supply pressure range	0.35 to 0.5 MPa	
Fluid material supply pressure range	Max. 0.5 Mpa	
Connector size	Fluid intake port	Rc1/8 (fluid feed joint ordered separately)
	Fluid dispensing port	Dedicated nozzle
	Control air	One-touch joint for $\phi 4$ outer diameter tube (with speed controller)
Operating temperature range	5 to 60°C	
Wetted part material	Stainless steel, Fluorine resin, Polyacetal, Ceramic	
Weight	237 g	

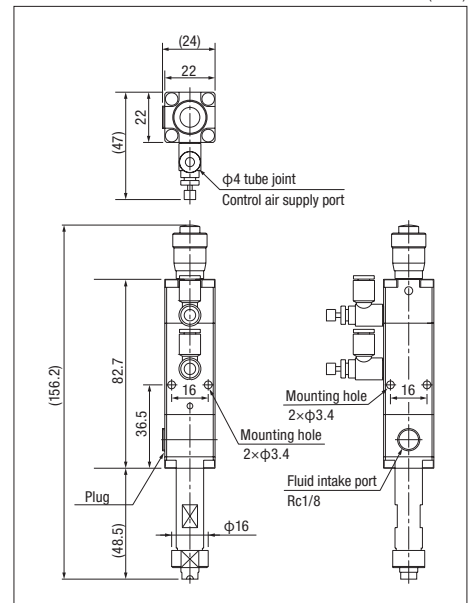
Valve controller
ME-5000VT



- Achieves wide, uniform coatings.
- Precise dispensing without scattering.
- Numerical control of valve stroke.

External dimensions

Measurement unit (mm)



Spray valve

SV-6 series

Compact and lightweight, applicable to all uses!



- Uniform thickness with two-fluid spray type.
- Low-pressure atomization prevents scattering.
- Multi-head compatibility.
- A wide range of spray patterns available.

SVM-6LX

Best suited for coating on inner surface of cylinder!



- Coating inner surface of cylinder with needle type nozzle.
- Low-pressure atomization prevents scattering.
- The compact and lightweight valve can be used in confined spaces.

Spray valve controller: ME-5000SP



SVM-6 LX dispensing illustration



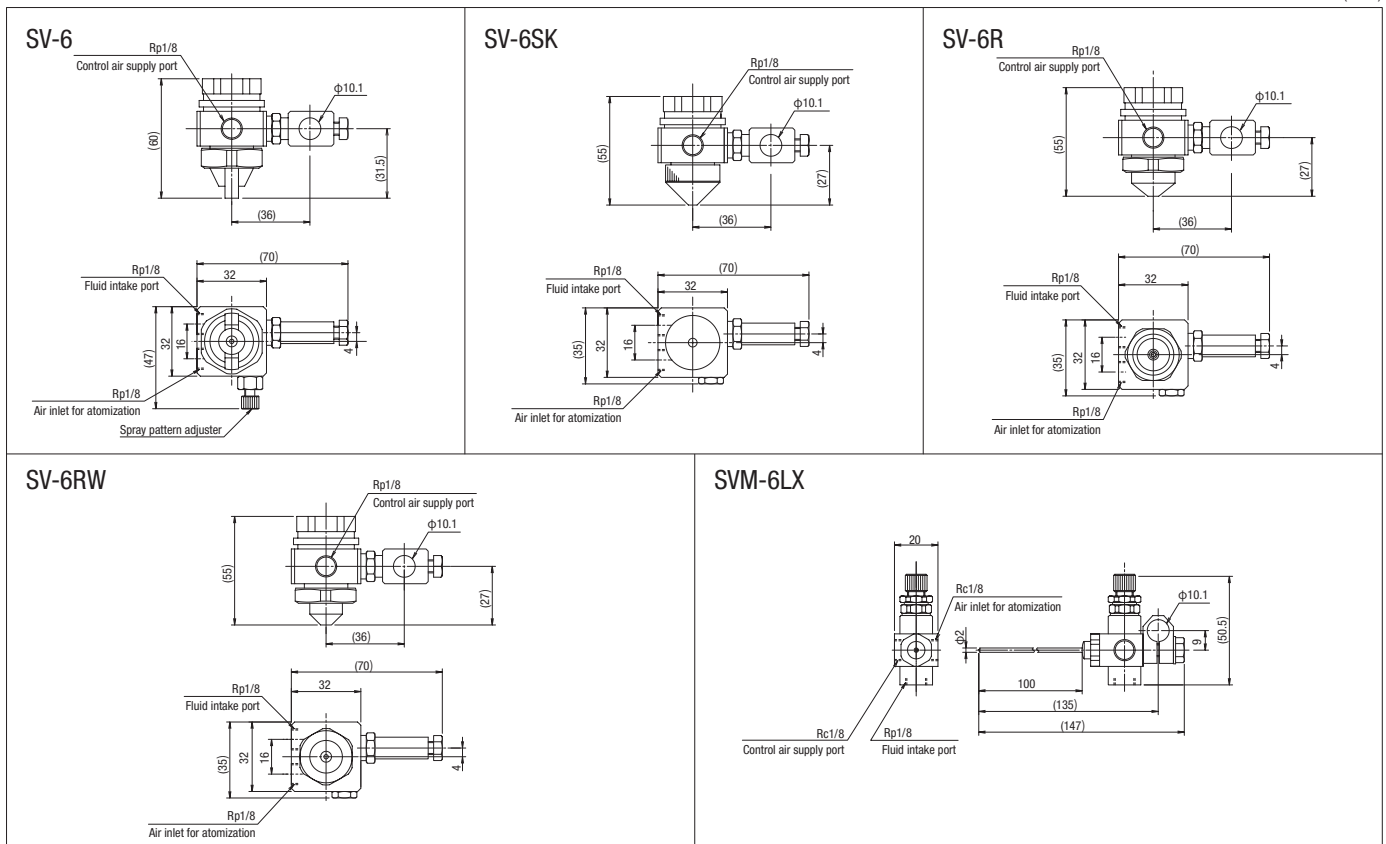
Specifications

Spray pattern	Round pattern Flat pattern	Small round pattern	Round pattern	Large round pattern	Small round pattern	
Series name	SV-6	SV-6SK	SV-6R	SV-6RW	SVM-6LX	
Nozzle size	Pattern dimensions		Pattern dimensions		Pattern dimensions	
	Distance	50 mm* 300 mm	Distance	50 mm* 300 mm	Distance	50 mm* 300 mm
0.5 mm	SV-6-0.5X	30 180	SV-6SK-0.5X	φ7 φ40	SV-6R-0.5X	φ10 φ55
0.7 mm	—	—	—	—	—	—
1.0 mm	SV-6-1.0X	47 280	SV-6SK-1.0X	φ12 φ70	SV-6R-1.0X	φ14 φ80
1.3 mm	SV-6-1.3X	59 350	—	—	SV-6RW-1.0X	φ22 φ130
2.0 mm	SV-6-2.0X	59 350	—	—	SV-6RW-1.3X	φ24 φ140
2.0 mm	—	—	—	—	SV-6RW-2.0X	φ25 φ150
Driving system	Pneumatic driven system					
Supply pressure	Operation air	0.2 to 0.5 MPa				
	Atomization air	to 0.5 MPa				
	Fluid materials	to 0.2 MPa				
Connector size	Control air	Rp1/8			Rc1/8	
	Atomization air	Rp1/8			Rc1/8	
	Fluid materials	Rp1/8				
Wetted part material	Brass (chrome plated), Stainless steel, Fluororubber for resistance to chemicals				Brass (chrome plated), Fluorine resin, Fluororubber	
Weight	267 g	238 g	239 g	234 g	106 g	

* Pattern dimensions at a distance of 50 mm are a guide value according to the maximum pattern dimensions at 300 mm (data of water sprayed at air pressure 0.3 MPa, and fluid feed pressure 0.01 MPa conditions).

External dimensions

Measurement unit (mm)



Diaphragm valve



DCV-2 / DCV-3

Suitable for low viscosity, anaerobic materials

- Diaphragm valve ideal for micro-dispensing low-viscosity fluid materials.
- Wetted part made of fluorine resin, enabling micro-dispensing of highly corrosive fluids.
- Available in types with stroke adjustment mechanism (vernier dial). (DCV-2N-VT, DCV-3N)

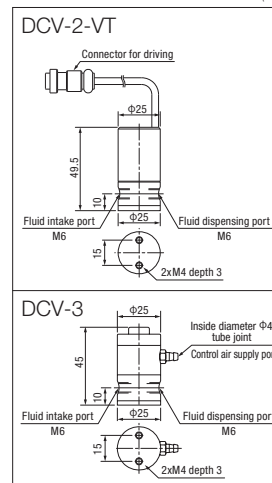


Specifications

	Electromagnetic	Electromagnetic type stroke adjustment attached	Pneumatic type	Pneumatic type stroke adjustment attached
Model	DCV-2-VT	DCV-2N-VT	DCV-3	DCV-3N
Minimum dispensing amount	10 μ L			
Compatible viscosity	Up to 1 Pa·s			
Applicable fluid materials	Low viscosity fluids (solutions, chemicals, etc.)			
Control air supply pressure range	—		0.3 to 0.6 Mpa	
Fluid material supply pressure range	Max. 0.2 Mpa		Max. 0.5 Mpa	
Connector size	Fluid intake port	M6		
	Fluid dispensing port	M6		
	Control air	ϕ 4 inner diameter tube connection		
Operating temperature range	0 to 80°C		-5 to 80°C	
Wetted part material	Fluorine resin			
Weight	130 g	140 g	120 g	140 g

Note: 1. Fittings for the diaphragm valve are sold separately. Please contact our sales office.
2. The dose volumes, material types and viscosities shown in the specifications above are only for reference.

External dimensions Measurement unit (mm)



Fluid drip prevention valve



TCV-53

Supports complete, uniform, high-precision dispensing

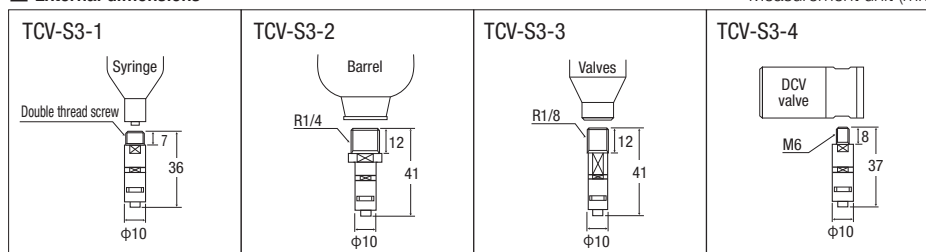
- The newly designed valve mechanism offers extremely high sealing performance without drip.
- Thoroughly effective in preventing contamination from bubbles or solution vapor escape.
- Suitable for low and medium viscosity fluids.

Specifications

	<input type="checkbox"/> KP Luer lock plug	<input type="checkbox"/> KP R1/4	<input type="checkbox"/> KP R1/8	<input type="checkbox"/> KP M6
Model	TCV-S3-1- <input type="checkbox"/> KP	TCV-S3-2- <input type="checkbox"/> KP	TCV-S3-3- <input type="checkbox"/> KP	TCV-S3-4- <input type="checkbox"/> KP
Spring pressure	10, 20, 30, 50, 70, 100, 150, 200, 220kPa			
Connector size	Fluid intake port	Double thread screw	R1/4	R1/8
	Fluid dispensing port	Luer lock		
Wetted part material	Stainless steel, Fluorine resin, Artificial gemstone			

External dimensions

Measurement unit (mm)



Note: Select a suitable valve from four types of constant volume dispensing valves according to the shape of the inlet.

Types of spring pressures (to set the fluid feed pressure)

Spring pressure kPa	For syringes	For syringe, fluorocarbon coated	For barrels/valves	For valves	For DCV valves
	Model	Model	Model	Model	Model
10	TCV-S3-1-10KP	TCV-S3T-1-10KP	TCV-S3-2-10KP	TCV-S3-3-10KP	TCV-S3-4-10KP
20	TCV-S3-1-20KP	TCV-S3T-1-20KP	TCV-S3-2-20KP	TCV-S3-3-20KP	TCV-S3-4-20KP
30	TCV-S3-1-30KP	TCV-S3T-1-30KP	TCV-S3-2-30KP	TCV-S3-3-30KP	TCV-S3-4-30KP
50	TCV-S3-1-50KP	TCV-S3T-1-50KP	TCV-S3-2-50KP	TCV-S3-3-50KP	TCV-S3-4-50KP
70	TCV-S3-1-70KP	TCV-S3T-1-70KP	TCV-S3-2-70KP	TCV-S3-3-70KP	TCV-S3-4-70KP
100	TCV-S3-1-100KP	TCV-S3T-1-100KP	TCV-S3-2-100KP	TCV-S3-3-100KP	TCV-S3-4-100KP
150	TCV-S3-1-150KP	TCV-S3T-1-150KP	TCV-S3-2-150KP	TCV-S3-3-150KP	TCV-S3-4-150KP
200	TCV-S3-1-200KP	TCV-S3T-1-200KP	TCV-S3-2-200KP	TCV-S3-3-200KP	TCV-S3-4-200KP
220	TCV-S3-1-220KP	TCV-S3T-1-220KP	TCV-S3-2-220KP	TCV-S3-3-220KP	TCV-S3-4-220KP

Note: Select the spring pressure after taking into account the fluid dispensing pressure and the fluid drip conditions.

Flexible configurations for large volume dispensing with optimal tank

Fluid feed tank for efficient high-capacity dispensing work.

MUSASHI offers four types of tanks to support a wide range of fluid viscosities, characteristics, and applications: safety lock tank with safety-focused design, straight one-touch tank, one-touch tank, and gallon tank.

You can select the best tank that matches your daily requirements, either fluid material direct feed type or internal container type, and select a capacity from 0.5 L to 38.5 L.

Fluid feed tank necessary components

Select the following components for a fluid feed tank and specify the specifications.

.....Optional accessories

Note: Gallon tank differs to the specifications below. Contact MUSASHI Sales for more details.

6 Fluid feed tube connector

Select "size" and "material".
OD ϕ 4/6/8/10/12, Stainless steel/ Fluorine resin

4 Through connector/Suction pipe

Select the "size" of the through connector or the "size and tip shape" of the suction pipe.

- ① Through connector OD ϕ 6/8/10/12
- ② Suction pipe OD ϕ 6/8/10/12, flat tip
OD ϕ 6/8/10/12, tip cut 45°

3 Safety valve

Select "max. setting pressure" (0.5 MPa at standard).

- ① 0.5 MPa
- ② 0.2 MPa

2 Oring for lid

Select "material" (fluororubber at standard).

- ① Fluororubber (former: Viton)
- ② Silicone rubber
- ③ Nitrile rubber
- ④ Butyl rubber

1 Tank body

Select "type" and "size".

- ① SST 1.7/2.2/5.5/6.2/12.7/20.3/38.5 L
- ② SOT 4.6/5.6/6.3/12.7/21.3 L
- ③ OTT 1/2/3/5/10/20/30 L

7 Fluid feed tube

Select "size", "length", "material", "color", and "for high pressure".
OD ϕ 4/6/8/10/12, Fluorine resin/PFA/Nylon/Silicone
White/Black/Transparency, for high pressure

5 Air hose set

Select the "size" of the pneumatic half union and the "size and length" of the air hose. (ϕ 6 x ϕ 4 air hose, 2m at standard)

- ① Half union OD 6/8/10/12 mm
- ② Air hose ϕ 6 x ϕ 4 2/5/10 m
 ϕ 8 x ϕ 5 2/5/10 m

8 Regulator/Air gauge with quick joints

Select "max. setting pressure"

- ① 0.2 MPa
- ② 0.7 MPa

9 Internal container

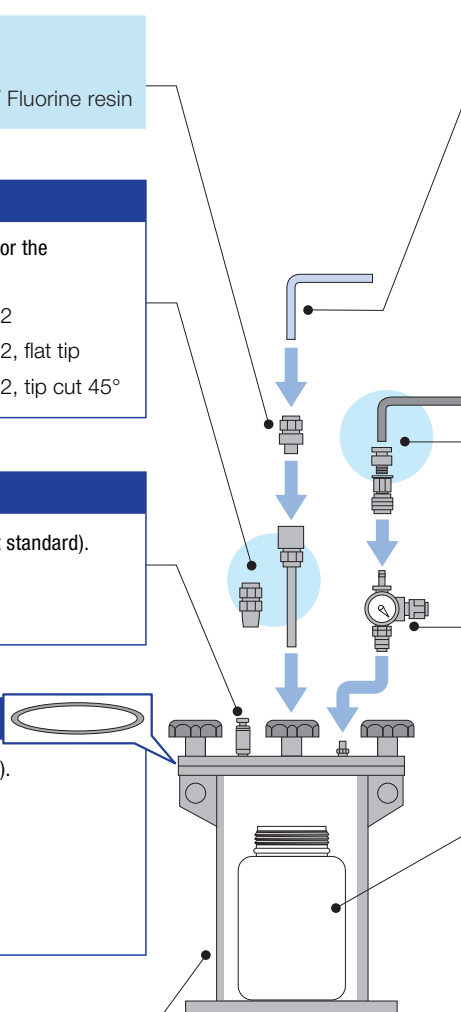
Select "size". Capacity: 0.5/1/2/3/5/10/20 L

10 Piston for internal container (1 kg use)

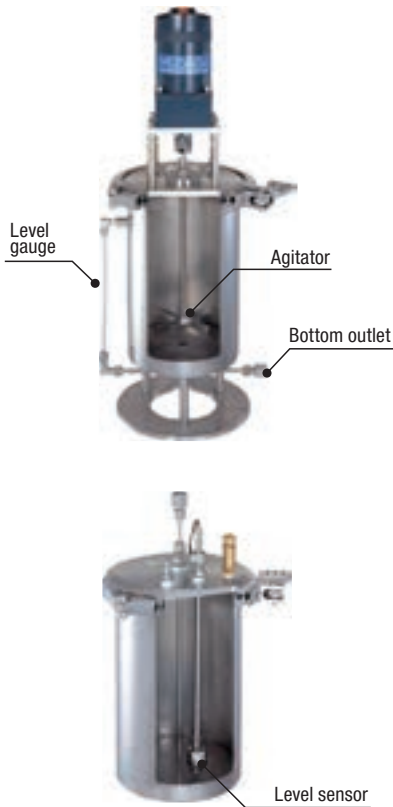
Select when using a grease can or the like as an internal container.

11 Other special order options

Please specify from Processing tank list on p. 37.



Full lineup of tank options



Temperature control



Piston



Inspection hole



Fluid feed tube connector



Processed tank list

A tank can be selected depending on materials to be used, capacity, and other conditions.

Model	Direct feed type				Internal container type	
	SST	SOT	OTT	GAT	SST	SOT
Standard option	Change of Oring material					
	Change of suction pipe diameter			Change of suction pipe diameter		
Available as special order	Temperature control spec.					
	Agitation spec.			Agitation spec.		
	Vacuum spec.			Vacuum spec.		
	Piston			Piston		
	Level sensor			Level sensor		
	Change or add material air supply/outlet positions			Change or add material air supply/outlet positions		
	Inspection hole (cover)			Inspection hole (cover)		
	Inspection hole (main body)			Inspection hole (main body)		
	Level gauge			Level gauge		
	Bottom outlet			Bottom outlet		
	Fluorine resin coated			Fluorine resin coated		
Electrolytic polishing			Electrolytic polishing			

Note: The chart above indicates option item availability for each item independently. Some combinations of optional items may not be available. Contact MUSASHI Sales for more information.

Valve and tank temperature control system

- Tank temperature control
- Tube temperature control
- Valve temperature control



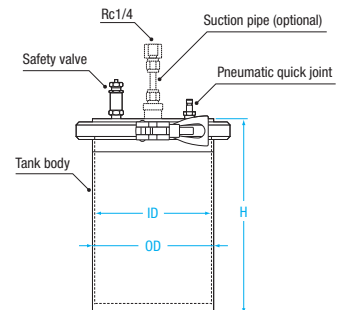
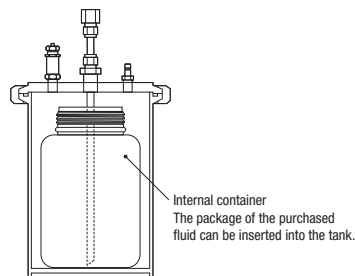
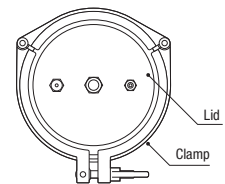
Note: Contact MUSASHI Sales for more details.

Straight one touch tank



- Straight internal tank design from opening with flat bottom allows fluid material containers to be mounted in purchased condition.
- A quick clamp system makes it simple to open and close the lid.
- Can be used as fluid material direct feed type.
- By combining MUSASHI's various valves and systems, the tank can be used in a wide variety of applications.
- Customizable.

Part names and external dimensions



■ Straight one touch tank

Capacity (L)	Model	External dimensions (mm)			Weight (kg)	Material	Pressure	Standard accessories
		H	ID	OD				
4.6	SOT-4.6L	266	φ159	φ165	8.7	Stainless steel	0.5 MPa	<ul style="list-style-type: none"> • Oring (Fluororubber) • Safety valve* • Pneumatic quick joint
5.6	SOT-5.6L	316	φ159	φ165	9.3			
6.3	SOT-6.3L	356	φ159	φ165	9.7			
12.7	SOT-12.7L	417	φ208	φ216	17.8			
21.3	SOT-21.3L	448	φ259	φ267	25.8			

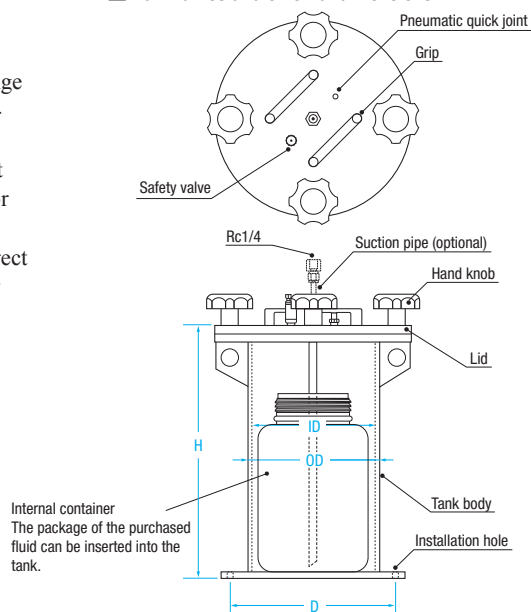
* The safety valve pressure is set at 0.2/0.5 MPa.

Safety lock tank



- Musashi original tank designed for safety with excellent versatility.
- Can be used for a wide range of fluids from low-to high-viscosity materials.
- The wide opening makes it easy to install an agitator or similar device.
- Can be used as 2 types: direct fluid material feed type, or internal container type.
- Customizable.

Part names and external dimensions



Safety lock tank

Capacity (L)	Model	External dimensions (mm)			Installation hole pitch (mm)	Installation hole diameter (mm)	Weight (kg)	Material	Pressure	Standard accessories
		H	ID	OD	D					
1.7	SST-1.7L	207	φ110	φ114	150	4- φ9	4.2	Stainless steel	0.5 MPa	<ul style="list-style-type: none"> • Oring (Fluororubber) • Safety valve* • Pneumatic quick joint
2.2	SST-2.2L	257	φ110	φ114	150	4- φ9	4.5			
5.5	SST-5.5L	309	φ158	φ165	200	4- φ9	11.5			
6.2	SST-6.2L	349	φ158	φ165	200	4- φ9	12.0			
12.7	SST-12.7L	411	φ208	φ216	260	4- φ11	25.6			
20.3	SST-20.3L	443	φ254	φ267	310	4- φ11	42.4			
38.5	SST-38.5L	465	φ343	φ356	400	4- φ11	69.0			

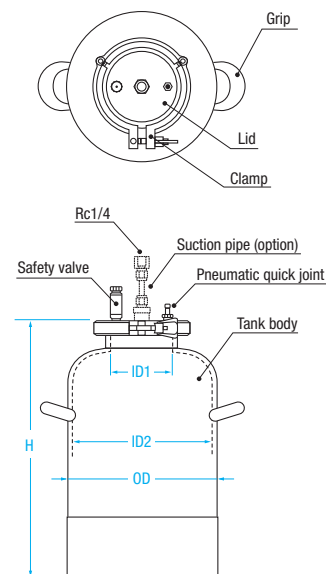
* The safety valve pressure is set at 0.2/0.5 MPa.

One touch tank



- The tank has a clamp type lid which allows you to open and close it easily.
- Can be used for a wide range of fluids from low-to high-viscosity materials.
- These are fluid material direct feed type tanks.
- Customizable.

Part names and external dimensions



Note: Handles are not installed on models OTT-1 L to OTT-5 L.

One touch tank

Capacity (L)	Model	External dimensions (mm)				Weight (kg)	Material	Pressure	Standard accessories
		H	ID1	ID2	OD				
1	OTT-1L	160	φ108	φ108	φ111	2.8	Stainless steel	0.5 MPa	<ul style="list-style-type: none"> • Oring (Fluororubber) • Safety valve* • Pneumatic quick joint
2	OTT-2L	280	φ108	φ108	φ111	3.2			
3	OTT-3L	280	φ108	φ150	φ153	3.7			
5	OTT-5L	310	φ108	φ180	φ183	4.2			
10	OTT-10L	400	φ108	φ230	φ233	6.3			
20	OTT-20L	470	φ108	φ279	φ283	9.7			
30	OTT-30L	505	φ108	φ330	φ334	11.4			

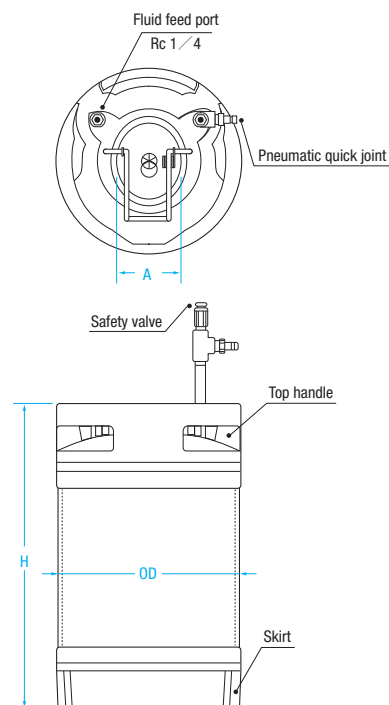
* The safety valve pressure is set at 0.2/0.5 MPa.

Gallon tank



- Simple tank designed specifically for directly pouring fluid in.
- Suitable for low pressure feeding of low to medium viscosity fluid.
- Lightweight and easy to move.
- The safety structure disables the lid to be opened when under pressure.

Part names and external dimensions



Gallon tank

Capacity	Model	External dimensions (mm)			Weight (kg)	Material	Pressure	Standard accessories
		H	OD	A				
3 gallons (Approx. 11.5 L)	GAT-3G	379	φ229	82	3.7	Wetted part: Stainless steel, Fluorine resin	0.2 MPa	<ul style="list-style-type: none"> • Oring (Fluororubber) • Safety valve* • Pneumatic quick joint
5 gallon (Approx. 19 L)	GAT-5G	565	φ229	82	4.3			

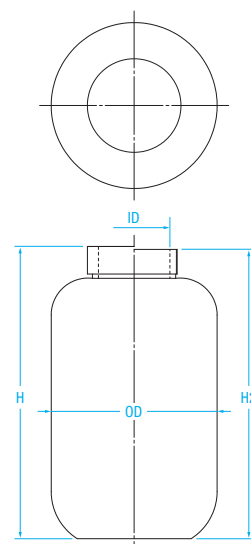
* The safety valve pressure is set at 0.2 MPa.

Internal container (former: Internal container (inside the tank))



- Since the fluid does not touch the tank directly, the tank can always be kept clean.
- Useful for using different types of fluids with one tank.

External dimensions



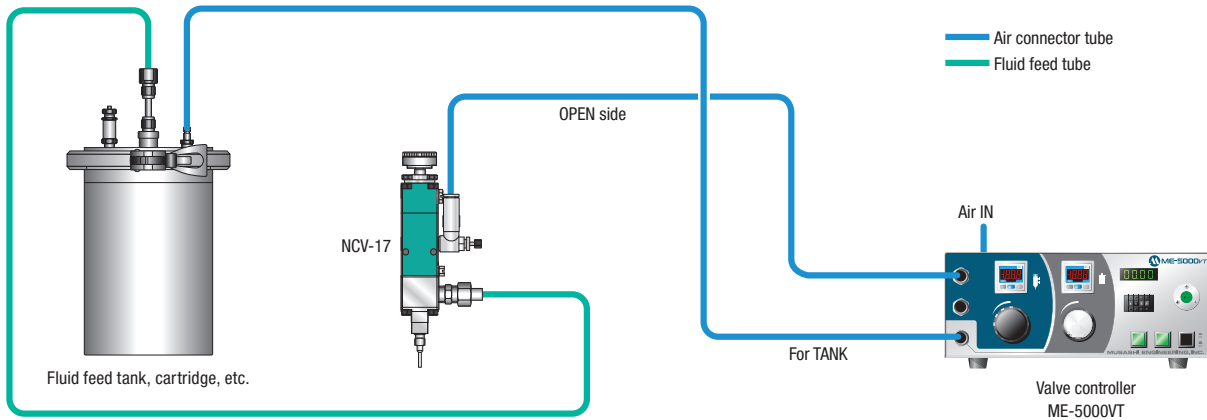
Internal container

Capacity (L)	Model	External dimensions (mm)				Material
		With outer lid H	Without outer lid H2	Outside diameter of body OD	Inside diameter of opening ID	
0.5	SBP-0.5L-01	151	146	φ78	φ43.5	Lid: HDPE Internal lid: LDPE Container: HDPE
1	SBP-1L-01	187.5	184	φ101	φ43.6	
2	SBP-2L-01	240	234.5	φ126	φ75	
3	SBP-3L-01	271	267.5	φ142.5	φ74.5	
5	SBP-5L-01	303	300	φ172	φ74	
10	SBP-10L-01	398	383.5	φ217	φ96.6	
20	SBP-20L	420	415	φ304	φ96	

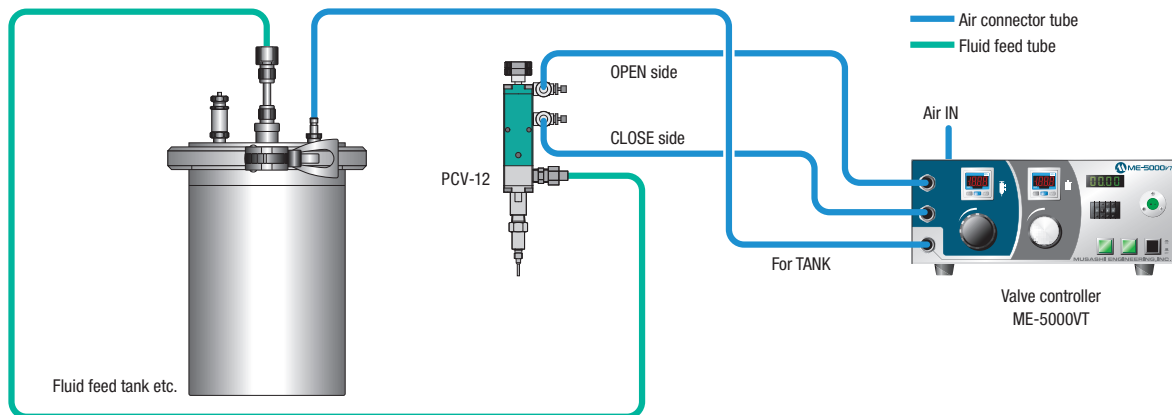
Note: The internal container must be inserted inside a safety lock tank or straight one-touch tank series before using.

Configuration diagram of the valve and tank system

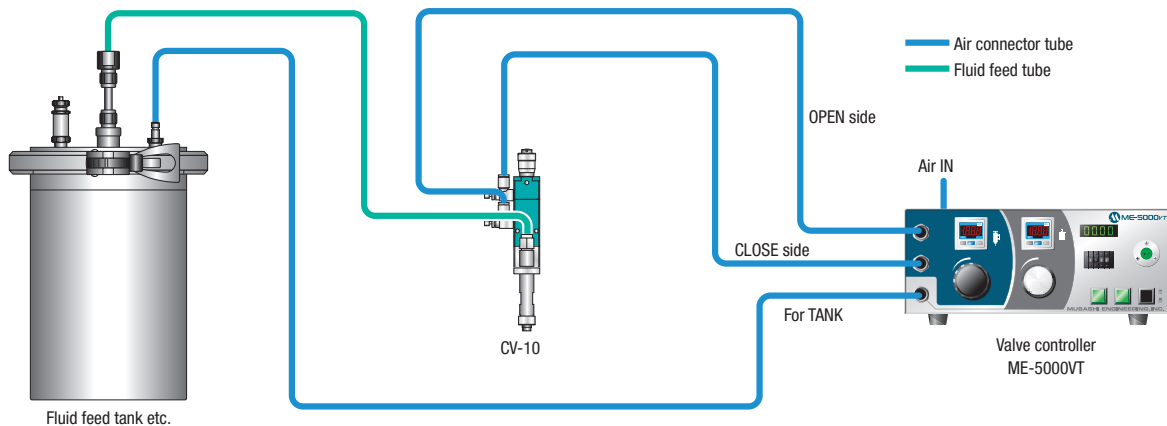
SMALL TYPE NEEDLE CONTROL VALVE MiniVal NCV-17



Piston control valve MiniVal PCV-12

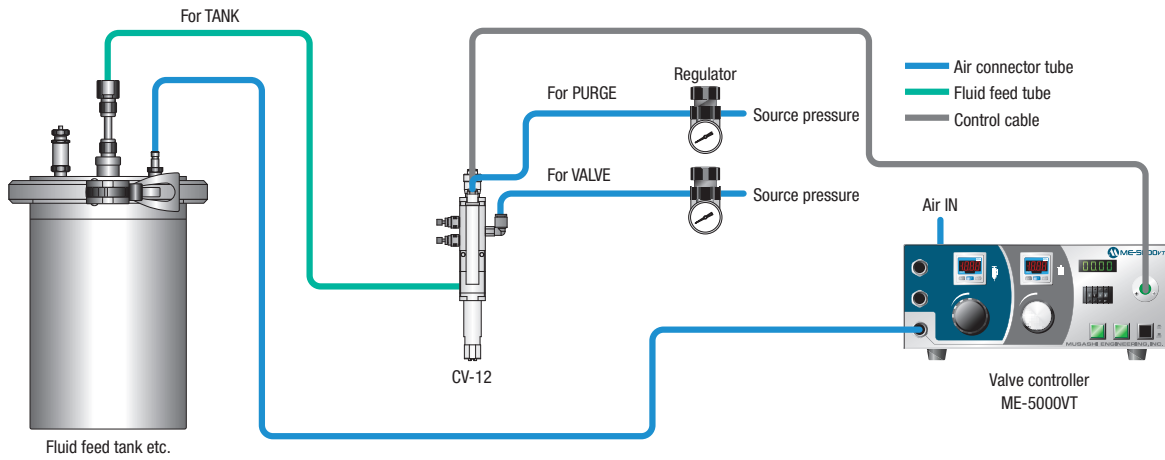


Coating valve CV-10

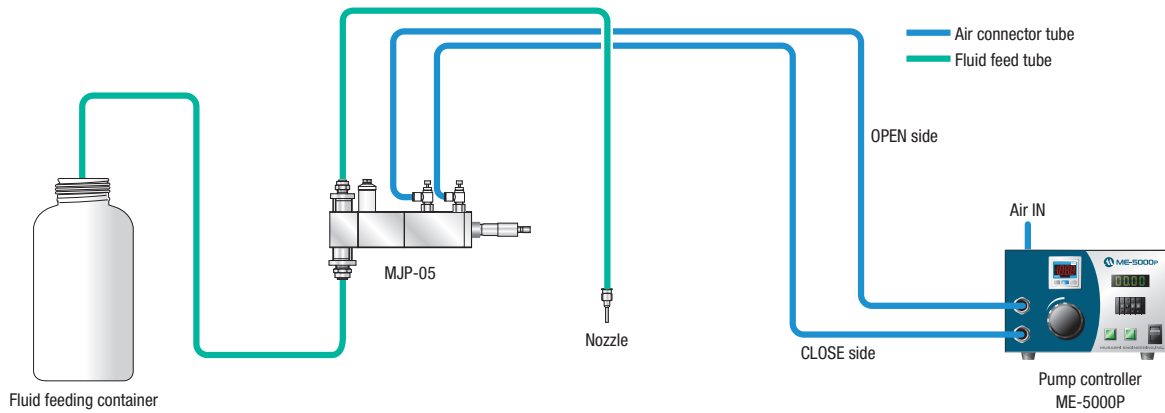


Configuration diagram of the valve and tank system

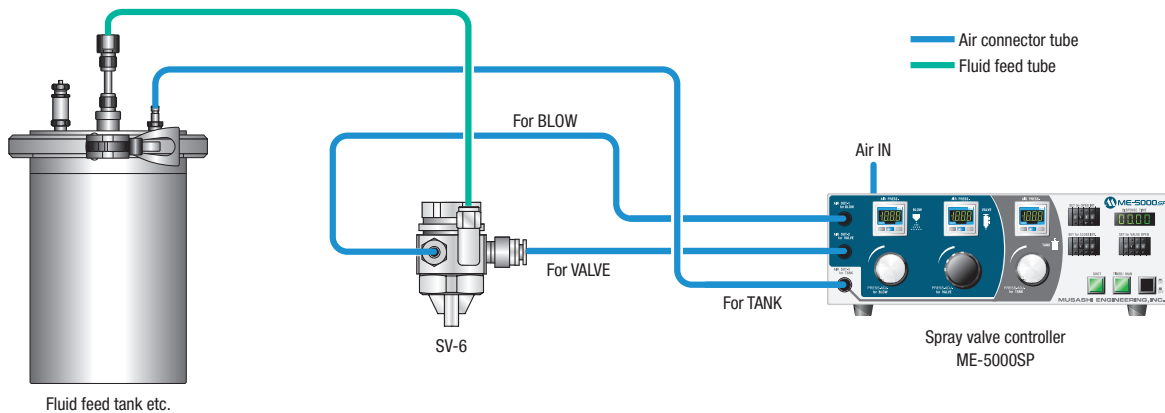
■ Coating valve CV-12



■ Volume measuring type plunger pump JUSTRO PUMP MJ-05



■ Spray valve SV-6



MUSASHI's new products, de facto standard in 21st century

MUSASHI has always earned an excellent reputation and great trust in the forefront of the technological field. Our outstanding unique technology allows MUSASHI to keep on creating new products that meet the needs of users in 21st century.

The product lineup includes a variety of dispensing methods to suit the application of dispensing, such as the newly developed Non-contact JET Dispenser, Air-pulse dispenser, Volumetric metering dispenser, Screw dispenser, Tubing dispenser, and Ultra-small dosage dispenser.

A product line worthy of the Next generation of standard Dispensers executes the work of uncompromising professionals with depth and precision.

Fully digital controlled dispenser

Super Σ CM III



Ultra-reliable dispensing with faster cycle time and smaller size

- Contributing to even higher throughput and yield.
- Delivering higher throughput for the global semiconductor manufacturing device industry.
- Delivering even smaller micro-dispensing.
- Better coverage of pressure changes.
- Improved stability for dispensing low-viscosity fluid materials.
- Greater performance with the Σ 3 major functions.
- Better durability and easier maintenance.
- Air-pulse stabilization circuit (PAT) mounted.

Supports upper-level communication Fully digital controlled dispenser

ML-8000X

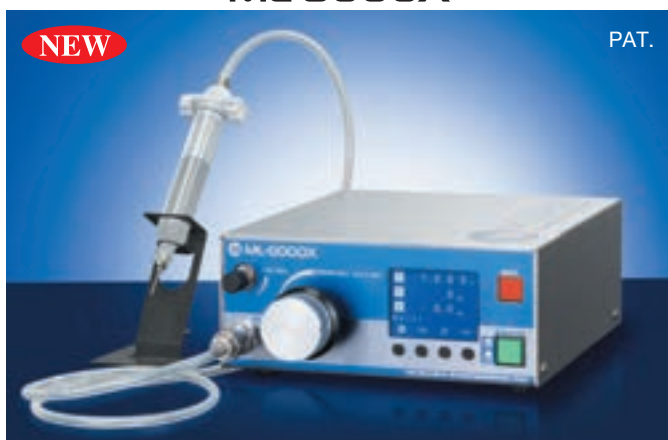


Industry 4.0 "complete" support Digital Dispenser Unveiled!!

- **Improved functions**— Vacuum pressure setting.
- **Production control**— Equipped with log, self-diagnosis, emergency stop
- **Refined operability**— Equipped with a 4.3 inch touch panel Easy operation and setting with "touch screen".
- **PC communication**— Equipped with USB ports.
- **Simplified manual setting**— Equipped with auto slope function.
- **Viscosity/Residual volume change**— Equipped with auto increment function.
- Air-pulse stabilization circuit (PAT) mounted.

High-precision digital dispenser

ML-6000X



Continuously enhanced "Dispensing Accuracy"— All for high quality dispensing

- Compatible with Industry 4.0 and outputs various kinds of abnormal errors.
- Simple Log function.
- Simple residual volume detection function.
- Channel registration is possible for a variety of products.
- General-purpose and vacuum high-resolution specifications lined up.
- CE Marking certified, EU RoHS2 compliant.
- Air-pulse stabilization circuit (PAT) mounted.

High precision ECO dispenser

SMART SHOT MS-1/MS-1D



High precision ECO dispenser debut!

- **Power consumption 1/2**— Cut power consumption by 50%!
- **Significant accuracy improvement**— Dispense precision is improved, 130% compared to existing model.
- **Multi-functional machine**— Equipped with setup function for dispensing condition.
- **Ultra-light weight and compact design.**
- CE Marking certified, EU RoHS2 compliant.



High viscosity Non-contact JET dispenser

SuperJet 2



Pursuit of high reliability • high quality

- Ultra high speed Max: 1,200 Hz is realized. * Complete continuous dispensing: 500 Hz
- Ultra low volume 0.5 nL/shot ~
- Three types of wetted parts are available. Compatible with Syringes of all standards.
- A fluid check window allows to detect fluid leaks and when to replace consumable parts of seals. Improved maintainability.
- Equipped with Synchro Speed function.

Mid & High viscosity Non-contact JET dispenser

AeroJet



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.
- Equipped with Synchro Speed function.

Volume measuring type digital dispenser

MEASURING MASTER MPP-1



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

- Set dispensing volume to suit capacity and density.
- High resolution & high linearity.
- Easy maintenance without tools.

High-performance screw dispenser

SCREW MASTER 3



High-precision stable dispensing of high viscosity filler-contained fluid

- Filler-contained fluid can finish up without being clogged.
- Significant reduction in downtime at syringe replacement.
- Long life of consumables.
- Equipped with Synchro Speed function.

High-performance MOHNO dispenser

MOHNO MASTER



For high-speed, high-quality gasket dispensing.

- Zero bubble contamination for dispensing!
- High responsiveness eliminates variation in dispensing accuracy and shape.
- Superior for gasket applications with high speed, high flow rate and high aspect ratio.
- Lineup covers micro volume to high flow rates.
- Dual head configuration that can achieve high-precision volumetric mixing for two-component hardening materials.
- Adoption of highly chemical resistant parts compatible with a wide range of fluid materials.
- Equipped with Synchro Speed function.

Rotary tubing dispenser

MT-410



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

- Simple tube setting.
- No fluid drips, less bubbles generated.
- Only tube used at wetted part, making maintenance easier.

Embodiments of dispensing know-how with our great accomplishments and high reliability

MUSASHI's dispensing equipments with excellent track record and high reliability in the manufacturing processes of cutting-edge products in a wide variety of fields such as semiconductors and flat panels. The full application of the dispensing know-how that we have built through the relentless pursuit of fluid precision control technology for years allows us to reach the highest level of not only dispensing precision but speed, stability, operability, and durability comprehensively. Advanced technology realizes ideal "Craftsmanship."

Fully automated multi-purpose dispensing machine

DISPENSMASTER *FAD 2500*



PAT.

Fully automated dispensing equipment's mainframe to meet broad application needs.

- Significant improvement in performance and functionality
- Multi-head compatibility. Highly versatile to suit various applications.
- Equipped with equivalent functions to higher models as standard.
- Wide range of standardized optional accessories.

Desktop dispensing robot with PC control image recognition

IMAGE MASTER *350PC Smart*



PAT.

The photo shows IMAGE MASTER 350PC Smart and SM300ΩX.

The world's first. High-speed and high-precision dispensing are possible even on a distorted workpiece

- Tact time reduced
Our original smart 3D alignment technology implemented.
- Measurement and trace functions
Length measurement/dispensing pattern trace functions mounted.
- Space reduced
Compact footprint achieved by smart design.

Cartesian robot

*X*CROSS MASTER *RX*series

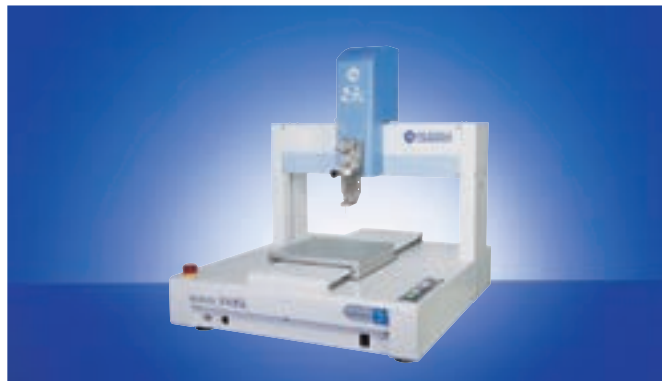


Precision inline motion unit

- The fusion of dispensing know-how of the comprehensive dispenser manufacturer.
- Class-leading ± 0.005 mm repetitive positioning accuracy.
- Optionally equipped with Synchro Speed function.
- Dispensing pattern editing software MuCADV optionally installed.
- Selectable stroke Select optimum stroke from 9 available combinations.

Desktop type robot

SHOTMASTER *Sx*series



Ultimate high cost performance

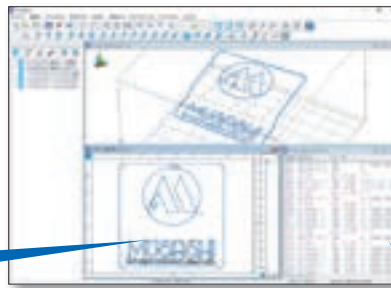
- 800 mm/s top level operation speed in desktop class.
- Repetitive positioning accuracy ± 0.01 mm.
- Synchro Speed function mounted.

Dispensing pattern editing software

MuCADV

Concentration of No. 1 dispensing know-how

- Saving editing time.
- Intuitive drawing of dispensing patterns.
- Easy editing for beginners.



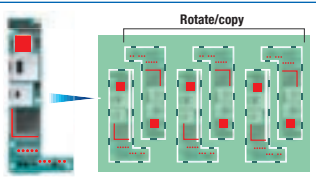
[New Function]

Automatically create dispensing programs from Gerber data.



Enter programs with drawings

- Using a mouse, create a program to "draw" locations for dispensing.
- Create a zigzag array or multi-cavity program.



Enter programs with commands

- Create accurate programs by entering values.

Linked

Fully automated seal dispensing machine

MLC-6500



PAT.

3-fold speed compared with conventional counterpart, max. speed of 300 mm/s drawing

- Newly developed mechanical dispenser mounted, drawing of high-viscosity fluid material at the speed of as high as 300 mm/s
- Precision at the start and stop points of sealing and corners significantly improved thanks to linearity control.
- High-precision fine line drawing achieved.



In-line enzyme/reagent dropping system

MGD-7500



Drops enzyme/reagent with high precision

- **Top-class dropping accuracy**
Equipped with the world's best ODF head (Fluid crystal dispenser) boasting a total of several thousand units of sales record.
- **High-precision drop position accuracy**
Dispensing position can be registered using a camera. Improves workability and prevents wrong registration of coordinates.
- **Contributes to stable quality.**
- **Automatic program generation.**

Desktop dispensing robot for laser soldering

DISPENSE LASER MASTER



PAT.

A new era for laser solder dispensing

- **Combining advanced dispensing technology with lasers.**
- **Non-contact melting.**
- **No spatter, no residue.**
- No maintenance.
- All-in-one system.

Screw tightening robot

SCREW FASTENER ROBO



Delivering "fast takt time" for screw tightening operations.

- Automatically creates screw tightening programs "easily" using the incorporated screw tightening assist software MuDRIVE.
- Cuts down programming time.
- Various error processing patterns are provided in advance.



Grease JET dispensing system

GREASE JET



Applying grease from many angles at high speed with pinpoint shooting!

- **Continuous dispensing of an entire can of grease** Helps to reduce running costs.
- **Pinpoint shooting of fixed volumes with non-contact JET.**
- Missed shot detection function.

For details, see the separate general catalog.

Model index (Alphabetical order)

A

	Model	Former model	Page	Item name	Former product code
AH-	AH-46	AH-46	23	AIR HOSE [OD6MM ID4MM BLACK]	982100
AT-	AT-1E	—	10	ADAPTER TUBE [1ML]	—
	AT-3E-H-1.0M	—	10	ADAPTER TUBE [WITH STOPPER 03ML 1.0M]	—
	AT-3E-H-C-1.0M	—	10	ADAPTER TUBE [WITH STOPPER 03ML WITH CLAMP 1.0M]	—
	AT-3E-H-P4C-1.0M	—	10	PLASTIC CONNECTOR TYPE ADAPTER TUBE [WITH STOPPER 03ML OD4MM 1.0M]	—
	AT-3E-H-P6C-1.0M	—	10	PLASTIC CONNECTOR TYPE ADAPTER TUBE [WITH STOPPER 03ML OD6MM 1.0M]	—
	AT-3E-SUS-1.0M	—	9	STAINLESS ADAPTER TUBE [WITH STOPPER 03ML 1.0M]	—
	AT-5E-H-1.0M	—	10	ADAPTER TUBE [WITH STOPPER 05ML 1.0M]	—
	AT-5E-H-C-1.0M	—	10	ADAPTER TUBE [WITH STOPPER 05ML WITH CLAMP 1.0M]	—
	AT-5E-H-P4C-1.0M	—	10	PLASTIC CONNECTOR TYPE ADAPTER TUBE [WITH STOPPER 05ML OD4MM 1.0M]	—
	AT-5E-H-P6C-1.0M	—	10	PLASTIC CONNECTOR TYPE ADAPTER TUBE [WITH STOPPER 05ML OD6MM 1.0M]	—
	AT-5E-H-S-1.0M	—	11	SIDE CONNECTION ADAPTER TUBE [WITH STOPPER 05ML 1.0M]	—
	AT-5E-H-SIGMA-1.0M	—	10	ADAPTER TUBE [WITH STOPPER 05ML SIGMA USE 1.0M]	—
	AT-5E-SUS-1.0M	—	9	STAINLESS ADAPTER TUBE [WITH STOPPER 05ML 1.0M]	—
	AT-10E-H-1.0M	—	10	ADAPTER TUBE [WITH STOPPER 10ML 1.0M]	—
	AT-10E-H-C-1.0M	—	10	ADAPTER TUBE [WITH STOPPER 10ML WITH CLAMP 1.0M]	—
	AT-10E-H-P4C-1.0M	—	10	PLASTIC CONNECTOR TYPE ADAPTER TUBE [WITH STOPPER 10ML OD4MM 1.0M]	—
	AT-10E-H-P6C-1.0M	—	10	PLASTIC CONNECTOR TYPE ADAPTER TUBE [WITH STOPPER 10ML OD6MM 1.0M]	—
	AT-10E-H-S-1.0M	—	11	SIDE CONNECTION ADAPTER TUBE [WITH STOPPER 10ML 1.0M]	—
	AT-10E-H-SEP-1.0M	—	9	ANTISTATIC ADAPTER TUBE [WITH STOPPER 10ML 1.0M]	—
	AT-10E-H-SIGMA-1.0M	—	10	ADAPTER TUBE [WITH STOPPER 10ML SIGMA USE 1.0M]	—
	AT-10E-SUS-1.0M	—	9	STAINLESS ADAPTER TUBE [WITH STOPPER 10ML 1.0M]	—
	AT-50E-H-1.0M	—	10	ADAPTER TUBE [WITH STOPPER 20~70ML 1.0M]	—
	AT-50E-H-C-1.0M	—	10	ADAPTER TUBE [WITH STOPPER 20~70ML WITH CLAMP 1.0M]	—
	AT-50E-H-P4C-1.0M	—	10	PLASTIC CONNECTOR TYPE ADAPTER TUBE [WITH STOPPER 20~70ML OD4MM 1.0M]	—
	AT-50E-H-P6C-1.0M	—	10	PLASTIC CONNECTOR TYPE ADAPTER TUBE [WITH STOPPER 20~70ML OD6MM 1.0M]	—
	AT-50E-H-S-1.0M	—	11	SIDE CONNECTION ADAPTER TUBE [WITH STOPPER 20~70ML 1.0M]	—
AT-50E-H-SEP-1.0M	—	9	ANTISTATIC ADAPTER TUBE [WITH STOPPER 20~70ML 1.0M]	—	
AT-50E-H-SEP-SIGMA-1.0M	—	9	ANTISTATIC ADAPTER TUBE [WITH STOPPER 20~70ML SIGMA 1.0M]	—	
AT-50E-H-SIGMA-1.0M	—	10	ADAPTER TUBE [WITH STOPPER 20~70ML SIGMA USE 1.0M]	—	
AT-50E-H-S-SIGMA-1.0M	—	11	SIDE CONNECTION ADAPTER TUBE [WITH STOPPER 20~70ML SIGMA USE 1.0M]	—	
AT-50E-SUS-1.0M	—	9	STAINLESS ADAPTER TUBE [WITH STOPPER 30~50ML 1.0M]	—	
AT-100E	AT-100E	10	ADAPTER TUBE [100ML]	5A8100	

B

	Model	Former model	Page	Item name	Former product code
BN-	BN-S1	BN-S1	19	BRUSH NOZZLE [STANDARD 4.5PHI]	6E5100
	BN-S2	BN-S2	19	BRUSH NOZZLE [SOFT TYPE 4.5PHI]	6E6100
	BN-S3	BN-S3	19	BRUSH NOZZLE [STANDARD 2PHI]	12100062
	BN-S4	BN-S4	19	BRUSH NOZZLE [SOFT TYPE 2PHI]	12100063

C

	Model	Former model	Page	Item name	Former product code
CB-	CB-1604A-CNV-DSUB25	—	23	CONVERSION CABLE [TYPE 16 4 PIN DSUB 25 PIN]	—
CL-	CL-1	CL-1	24	H-TYPE STAND CLAMP HOLDER	C22102
CPN-	CPN-14G-A45	CPN-14G-A45	18	CURVE NEEDLE[14G NEEDLE LENGTH 12.7MM ANGLE45]BODY: PLASTIC	613G00
	CPN-14G-A90	CPN-14G-A90	18	CURVE NEEDLE[14G NEEDLE LENGTH 12.7MM ANGLE90]BODY: PLASTIC	613H00
	CPN-14G-B45	CPN-14G-B45	18	CURVE NEEDLE[14G NEEDLE LENGTH 38.1MM ANGLE45]BODY: PLASTIC	613I00
	CPN-15G-A45	CPN-15G-A45	18	CURVE NEEDLE[15G NEEDLE LENGTH 12.7MM ANGLE45]BODY: PLASTIC	614G00
	CPN-15G-A90	CPN-15G-A90	18	CURVE NEEDLE[15G NEEDLE LENGTH 12.7MM ANGLE90]BODY: PLASTIC	614H00
	CPN-18G-A45	CPN-18G-A45	18	CURVE NEEDLE[18G NEEDLE LENGTH 12.7MM ANGLE45]BODY: PLASTIC	617G00
	CPN-18G-A90	CPN-18G-A90	18	CURVE NEEDLE[18G NEEDLE LENGTH 12.7MM ANGLE90]BODY: PLASTIC	617H00
	CPN-18G-B45	CPN-18G-B45	18	CURVE NEEDLE[18G NEEDLE LENGTH 38.1MM ANGLE45]BODY: PLASTIC	617I00
	CPN-20G-A45	CPN-20G-A45	18	CURVE NEEDLE[20G NEEDLE LENGTH 12.7MM ANGLE45]BODY: PLASTIC	619G00
	CPN-20G-A90	CPN-20G-A90	18	CURVE NEEDLE[20G NEEDLE LENGTH 12.7MM ANGLE90]BODY: PLASTIC	619H00
	CPN-21G-A45	CPN-21G-A45	18	CURVE NEEDLE[21G NEEDLE LENGTH 12.7MM ANGLE45]BODY: PLASTIC	61AG00
	CPN-21G-A90	CPN-21G-A90	18	CURVE NEEDLE[21G NEEDLE LENGTH 12.7MM ANGLE90]BODY: PLASTIC	61AH00
	CPN-21G-B45	CPN-21G-B45	18	CURVE NEEDLE[21G NEEDLE LENGTH 38.1MM ANGLE45]BODY: PLASTIC	61AI00
	CPN-22G-A45	CPN-22G-A45	18	CURVE NEEDLE[22G NEEDLE LENGTH 12.7MM ANGLE45]BODY: PLASTIC	61BG00
	CPN-22G-A90	CPN-22G-A90	18	CURVE NEEDLE[22G NEEDLE LENGTH 12.7MM ANGLE90]BODY: PLASTIC	61BH00
	CPN-23G-A45	CPN-23G-A45	18	CURVE NEEDLE[23G NEEDLE LENGTH 12.7MM ANGLE45]BODY: PLASTIC	61CG00
	CPN-23G-A90	CPN-23G-A90	18	CURVE NEEDLE[23G NEEDLE LENGTH 12.7MM ANGLE90]BODY: PLASTIC	61CH00
	CPN-25G-A45	CPN-25G-A45	18	CURVE NEEDLE[25G NEEDLE LENGTH 12.7MM ANGLE45]BODY: PLASTIC	61EG00
	CPN-25G-A90	CPN-25G-A90	18	CURVE NEEDLE[25G NEEDLE LENGTH 12.7MM ANGLE90]BODY: PLASTIC	61EH00
	CPN-27G-A45	CPN-27G-A45	18	CURVE NEEDLE[27G NEEDLE LENGTH 12.7MM ANGLE45]BODY: PLASTIC	61GG00
	CPN-27G-A90	CPN-27G-A90	18	CURVE NEEDLE[27G NEEDLE LENGTH 12.7MM ANGLE90]BODY: PLASTIC	61GH00
	CPN-30G-A45	CPN-30G-A45	18	CURVE NEEDLE[30G NEEDLE LENGTH 12.7MM ANGLE45]BODY: PLASTIC	61JG00
	CPN-30G-A90	CPN-30G-A90	18	CURVE NEEDLE[30G NEEDLE LENGTH 12.7MM ANGLE90]BODY: PLASTIC	61JH00

	Model	Former model	Page	Item name	Former product code
CT-	CT-36P	CT-36P	22	AIR CONNECTOR TUBE [QJPLUG OD6MM 1M]	952A00
	CT-36PS	CT-36PS	22	AIR CONNECTOR TUBE [QJ PLUG QJ SOCKET 1.0M]	952K00
	CT-36PS-F	—	11	AIR CONNECTOR TUBE [QJPLUG QJSOCKET WITH FILTER 150M]	—
	CT-58PS-SIGMA	CT-58PS-SIGMA	22	AIR CONNECTOR TUBE [QJ PLUG QJ SOCKET SIGMA USE 1M]	954K00
CV-	CV-10-2P-1N	CV-10-2P-1N	33	COATING VALVE [TYPE 10 2PORT WITHOUT JOINT]	*1
	CV-12	—	33	COATING VALVE [12TYPE]	—

D

	Model	Former model	Page	Item name	Former product code
DCV-	DCV-2-VT	DCV-2-VT	35	DIAPHRAGM VALVE [ELECTROMAGNETIC TYPE]	16100012
	DCV-2N-VT	DCV-2N-VT	35	DIAPHRAGM VALVE [ELECTROMAGNETIC TYPE STROKE ADJUSTMENT ATTACHED]	16100013
	DCV-3	DCV-3	35	DIAPHRAGM VALVE [PNEUMATIC TYPE]	754100
	DCV-3N	DCV-3N	35	DIAPHRAGM VALVE [PNEUMATIC TYPE STROKE ADJUSTMENT ATTACHED]	755100
DHG-	DHG-5E	DHG-5E	23	DISPENSE HANDGUN [5ML]	2C3100
	DHG-10E	DHG-10E	23	DISPENSE HANDGUN [10ML]	2C4100
	DHG-30E	DHG-30E	23	DISPENSE HANDGUN [30ML]	2C6100
	DHG-50E	DHG-50E	23	DISPENSE HANDGUN [50ML]	2C7100
DN-	DN-16G	DN-16G	20	TWIN NEEDLE [16G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	645100
	DN-17G	DN-17G	20	TWIN NEEDLE [17G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	646100
	DN-18G	DN-18G	20	TWIN NEEDLE [18G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	647100
	DN-18G-3P	DN-18G-3P	20	3 PIN NEEDLE [18G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	647200
	DN-19G	DN-19G	20	TWIN NEEDLE [19G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	648100
	DN-19G-3P	DN-19G-3P	20	3 PIN NEEDLE [19G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	648200
	DN-20G	DN-20G	20	TWIN NEEDLE [20G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	649100
	DN-20G-3P	DN-20G-3P	20	3 PIN NEEDLE [20G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	649200
	DN-21G	DN-21G	20	TWIN NEEDLE [21G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64A100
	DN-21G-3P	DN-21G-3P	20	3 PIN NEEDLE [21G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64A200
	DN-21G-4P	DN-21G-4P	20	4PIN NEEDLE [21G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64A300
	DN-22G	DN-22G	20	TWIN NEEDLE [22G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64B100
	DN-22G-3P	DN-22G-3P	20	3 PIN NEEDLE [22G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64B200
	DN-22G-4P	DN-22G-4P	20	4PIN NEEDLE [22G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64B300
	DN-23G	DN-23G	20	TWIN NEEDLE [23G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64C100
	DN-23G-3P	DN-23G-3P	20	3 PIN NEEDLE [23G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64C200
	DN-23G-4P	DN-23G-4P	20	4PIN NEEDLE [23G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64C300
	DN-24G	DN-24G	20	TWIN NEEDLE [24G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64D100
	DN-24G-3P	DN-24G-3P	20	3 PIN NEEDLE [24G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64D200
	DN-24G-4P	DN-24G-4P	20	4PIN NEEDLE [24G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64D300
	DN-25G	DN-25G	20	TWIN NEEDLE [25G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64E100
	DN-25G-3P	DN-25G-3P	20	3 PIN NEEDLE [25G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64E200
	DN-25G-4P	DN-25G-4P	20	4PIN NEEDLE [25G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64E300
	DN-26G	DN-26G	20	TWIN NEEDLE [26G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64F100
	DN-26G-3P	DN-26G-3P	20	3 PIN NEEDLE [26G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64F200
	DN-26G-4P	DN-26G-4P	20	4PIN NEEDLE [26G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64F300
	DN-27G	DN-27G	20	TWIN NEEDLE [27G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64G100
	DN-27G-3P	DN-27G-3P	20	3 PIN NEEDLE [27G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64G200
DN-27G-4P	DN-27G-4P	20	4PIN NEEDLE [27G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64G300	
DN-28G	DN-28G	20	TWIN NEEDLE [28G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64H100	
DN-28G-3P	DN-28G-3P	20	3 PIN NEEDLE [28G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64H200	
DN-28G-4P	DN-28G-4P	20	4PIN NEEDLE [28G NEEDLE LENGTH 20MM] MULTI-PIN NOZZLE	64H300	
DPN-	DPN-14G-1	DPN-14G-1	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [14G NEEDLE LENGTH12.7MM]	613D00
	DPN-14G-2	DPN-14G-2	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [14G NEEDLE LENGTH 25.4MM]	613E00
	DPN-14G-3	DPN-14G-3	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [14G NEEDLE LENGTH38.1MM]	613F00
	DPN-15G-1	DPN-15G-1	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [15G NEEDLE LENGTH12.7MM]	614D00
	DPN-15G-2	DPN-15G-2	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [15G NEEDLE LENGTH 25.4MM]	614E00
	DPN-15G-3	DPN-15G-3	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [15G NEEDLE LENGTH38.1MM]	614F00
	DPN-18G-1	DPN-18G-1	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [18G NEEDLE LENGTH12.7MM]	617D00
	DPN-18G-2	DPN-18G-2	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [18G NEEDLE LENGTH 25.4MM]	617E00
	DPN-18G-3	DPN-18G-3	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [18G NEEDLE LENGTH38.1MM]	617F00
	DPN-20G-1	DPN-20G-1	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [20G NEEDLE LENGTH12.7MM]	619D00
	DPN-20G-2	DPN-20G-2	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [20G NEEDLE LENGTH 25.4MM]	619E00
	DPN-20G-3	DPN-20G-3	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [20G NEEDLE LENGTH38.1MM]	619F00
	DPN-21G-1	DPN-21G-1	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [21G NEEDLE LENGTH12.7MM]	61AD00
	DPN-21G-2	DPN-21G-2	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [21G NEEDLE LENGTH25.4MM]	61AE00
	DPN-21G-3	DPN-21G-3	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [21G NEEDLE LENGTH38.1MM]	61AF00
	DPN-22G-1	DPN-22G-1	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [22G NEEDLE LENGTH12.7MM]	61BD00
	DPN-22G-2	DPN-22G-2	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [22G NEEDLE LENGTH25.4MM]	61BE00
	DPN-22G-3	DPN-22G-3	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [22G NEEDLE LENGTH38.1MM]	61BF00

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	Model	Former model	Page	Item name	Former product code
DPN-	DPN-23G-1	DPN-23G-1	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [23G NEEDLE LENGTH12.7MM]	61CD00
	DPN-23G-2	DPN-23G-2	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [23G NEEDLE LENGTH25.4MM]	61CE00
	DPN-23G-3	DPN-23G-3	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [23G NEEDLE LENGTH38.1MM]	61CF00
	DPN-25G-1	DPN-25G-1	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [25G NEEDLE LENGTH12.7MM]	61ED00
	DPN-25G-2	DPN-25G-2	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [25G NEEDLE LENGTH25.4MM]	61EE00
	DPN-25G-3	DPN-25G-3	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [25G NEEDLE LENGTH38.1MM]	61EF00
	DPN-27G-1	DPN-27G-1	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [27G NEEDLE LENGTH12.7MM]	61GD00
	DPN-30G-1	DPN-30G-1	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [30G NEEDLE LENGTH12.7MM]	61JD00
	DPN-32G-1	DPN-32G-1	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [32G NEEDLE LENGTH12.7MM]	12100060
DPN-32G-0	DPN-32G-0	16	DOUBLE THREAD SCREWED PLASTIC NEEDLE [32G NEEDLE LENGTH6.4MM]	12100064	
DSHN-	DSHN-M2-0.10F	—	14	DOUBLE THREAD SCREW PRECISION SOLID NOZZLE [FINE TYPE ID 0.10MM]	—
	DSHN-M2-0.15F	—	14	DOUBLE THREAD SCREW PRECISION SOLID NOZZLE [FINE TYPE ID 0.15MM]	—
	DSHN-M2-0.20F	—	14	DOUBLE THREAD SCREW PRECISION SOLID NOZZLE [FINE TYPE ID 0.20MM]	—
	DSHN-M2-0.25F	—	14	DOUBLE THREAD SCREW PRECISION SOLID NOZZLE [FINE TYPE ID 0.25MM]	—
	DSHN-M2-0.30F	—	14	DOUBLE THREAD SCREW PRECISION SOLID NOZZLE [FINE TYPE ID 0.30MM]	—

F

	Model	Former model	Page	Item name	Former product code
F/R-	F/R-4	F/R-4	23	FILTER/REGULATOR	C34C00
FAD	FAD2500	—	44	FULLY AUTOMATED MULTI-PURPOSE DISPENSING MACHINE DISPENS MASTER	—
FLP-	FLP-1E	FLP-1E	12	FLOAT WIPER PLUNGER [1ML YELLOW]	13200004
	FLP-3E	FLP-3E	12	FLOAT WIPER PLUNGER [3ML YELLOW]	5B2600
	FLP-5E	FLP-5E	12	FLOAT WIPER PLUNGER [5ML YELLOW]	5B3600
	FLP-10E	FLP-10E	12	FLOAT WIPER PLUNGER [10ML YELLOW]	5B4600
	FLP-50E	FLP-50E	12	FLOAT WIPER PLUNGER [20/30/50ML YELLOW]	5B7600
	FLP-100E	—	12	FLOAT WIPER PLUNGER [100ML YELLOW]	—
	FN-	FN-0.02N	FN-0.02N	15	SUPER FINE NOZZLE [ID0.02MM LUER LOCK]
FN-0.02ND		FN-0.02ND	15	SUPER FINE NOZZLE [ID0.02MM DOUBLE TREAD SCREWED]	68F300
FN-0.02N-F		FN-0.02N-F	15	SUPER FINE NOZZLE TIP THICK 15MICROMETER [ID0.02MM LUER LOCK]	68F500
FN-0.02ND-F		FN-0.02ND-F	15	SUPER-FINE NOZZLE TIP THICK15MICROMETER [ID0.02MM 2THREADSCREW]	068F6000
FN-0.03N		FN-0.03N	15	SUPER FINE NOZZLE [ID0.03MM LUER LOCK]	68G200
FN-0.03ND		FN-0.03ND	15	SUPER FINE NOZZLE [ID0.03MM DOUBLE TREAD SCREWED]	68G300
FN-0.03N-F		FN-0.03N-F	15	SUPER FINE NOZZLE TIP THICK 15MICROMETER [ID0.03MM LUER LOCK]	68G500
FN-0.03ND-F		FN-0.03ND-F	15	SUPER-FINE NOZZLE TIP THICK15MICROMETER [ID0.03MM 2THREADSCREW]	068G6000
FN-0.04N		FN-0.04N	15	SUPER FINE NOZZLE [ID0.04MM LUER LOCK]	68H200
FN-0.04ND		FN-0.04ND	15	SUPER FINE NOZZLE [ID0.04MM DOUBLE TREAD SCREWED]	68H300
FN-0.04N-F		FN-0.04N-F	15	SUPER FINE NOZZLE TIP THICK 15MICROMETER [ID0.04MM LUER LOCK]	68H500
FN-0.04ND-F		FN-0.04ND-F	15	SUPER-FINE NOZZLE TIP THICK15MICROMETER [ID0.04MM 2THREADSCREW]	068H6000
FN-0.05N		FN-0.05N	15	SUPER FINE NOZZLE [ID0.04MM LUER LOCK]	68J200
FN-0.05ND		FN-0.05ND	15	SUPER FINE NOZZLE [ID0.04MM DOUBLE TREAD SCREWED]	68J300
FN-0.05N-F		FN-0.05N-F	15	SUPER FINE NOZZLE TIP THICK 15MICROMETER [ID0.04MM LUER LOCK]	68J500
FN-0.05ND-F		FN-0.05ND-F	15	SUPER-FINE NOZZLE TIP THICK15MICROMETER [ID0.05MM 2THREADSCREW]	68J6000
FN-0.10N		FN-0.10N	15	SUPER FINE NOZZLE [ID0.10MM LUER LOCK]	68K200
FN-0.10ND		FN-0.10ND	15	SUPER FINE NOZZLE [ID0.10MM DOUBLE TREAD SCREWED]	68K300
FN-0.10N-F		FN-0.10N-F	15	SUPER FINE NOZZLE TIP THICK 15MICROMETER [ID0.10MM LUER LOCK]	68K500
FN-0.10ND-F		FN-0.10ND-F	15	SUPER-FINE NOZZLE TIP THICK15MICROMETER [ID0.10MM 2THREADSCREW]	68K6000
FN-0.15N		FN-0.15N	15	SUPER FINE NOZZLE [ID0.15MM LUER LOCK]	68L200
FN-0.15ND		FN-0.15ND	15	SUPER FINE NOZZLE [ID0.15MM DOUBLE TREAD SCREWED]	68L300
FN-0.15N-F		FN-0.15N-F	15	SUPER FINE NOZZLE TIP THICK 15MICROMETER [ID0.15MM LUER LOCK]	68L500
FN-0.15ND-F		FN-0.15ND-F	15	SUPER-FINE NOZZLE TIP THICK15MICROMETER [ID0.15MM 2THREADSCREW]	68L6000
FN-0.20N		FN-0.20N	15	SUPER FINE NOZZLE [ID0.20MM LUER LOCK]	68M200
FN-0.20ND		FN-0.20ND	15	SUPER FINE NOZZLE [ID0.20MM DOUBLE TREAD SCREWED]	68M300
FN-0.20N-F		FN-0.20N-F	15	SUPER FINE NOZZLE TIP THICK 15MICROMETER [ID0.20MM LUER LOCK]	68M500
FN-0.20ND-F		FN-0.20ND-F	15	SUPER-FINE NOZZLE TIP THICK15MICROMETER [ID0.20MM 2THREADSCREW]	68M6000
FN-0.25N		FN-0.25N	15	SUPER FINE NOZZLE [ID0.25MM LUER LOCK]	68N200
FN-0.25ND		FN-0.25ND	15	SUPER FINE NOZZLE [ID0.25MM DOUBLE TREAD SCREWED]	68N300
FN-0.25N-F		FN-0.25N-F	15	SUPER FINE NOZZLE TIP THICK 15MICROMETER [ID0.25MM LUER LOCK]	68N500
FN-0.25ND-F		FN-0.25ND-F	15	SUPER-FINE NOZZLE TIP THICK15MICROMETER [ID0.25MM 2THREADSCREW]	68N6000
FN-0.30N		FN-0.30N	15	SUPER FINE NOZZLE [ID0.30MM LUER LOCK]	68O200
FN-0.30ND		FN-0.30ND	15	SUPER FINE NOZZLE [ID0.30MM DOUBLE TREAD SCREWED]	68O300
FN-0.30N-F		FN-0.30N-F	15	SUPER FINE NOZZLE TIP THICK 15MICROMETER [ID0.30MM LUER LOCK]	68O500
FN-0.30ND-F		FN-0.30ND-F	15	SUPER-FINE NOZZLE TIP THICK15MICROMETER [ID0.30MM 2THREADSCREW]	68O6000
FN-0.40N		FN-0.40N	15	SUPER FINE NOZZLE [ID0.40MM LUER LOCK]	68P200
FN-0.40ND		FN-0.40ND	15	SUPER FINE NOZZLE [ID0.40MM DOUBLE TREAD SCREWED]	68P300
FN-0.40N-F		FN-0.40N-F	15	SUPER FINE NOZZLE TIP THICK 15MICROMETER [ID0.40MM LUER LOCK]	68P500
FN-0.40ND-F		FN-0.40ND-F	15	SUPER-FINE NOZZLE TIP THICK15MICROMETER [ID0.40MM 2THREADSCREW]	68P6000
FN-0.50N		FN-0.50N	15	SUPER FINE NOZZLE [ID0.50MM LUER LOCK]	68A200

	Model	Former model	Page	Item name	Former product code
FN-	FN-0.50ND	FN-0.50ND	15	SUPER FINE NOZZLE [ID0.50MM DOUBLE TREAD SCREWED]	69A300
	FN-0.50N-F	FN-0.50N-F	15	SUPER FINE NOZZLE TIP THICK 15MICROMETER [ID0.50MM LUER LOCK]	68A500
	FN-0.50ND-F	FN-0.50ND-F	15	SUPER-FINE NOZZLE TIP THICK15MICROMETER [ID0.50MM 2THREADSCREW]	068A6000
	FN-0.60N	FN-0.60N	15	SUPER FINE NOZZLE [ID0.60MM LUER LOCK]	68B200
	FN-0.60ND	FN-0.60ND	15	SUPER FINE NOZZLE [ID0.60MM DOUBLE TREAD SCREWED]	69B300
	FN-0.60N-F	FN-0.60N-F	15	SUPER FINE NOZZLE TIP THICK 15MICROMETER [ID0.60MM LUER LOCK]	68B500
FS/W-	FS/W-2-1604P	FS/W-2-1604P	23	FOOT SWITCH [TYPE 16 4PIN]	C12300
	FS/W-2-DSUB25-2.0M	—	23	FOOT SWITCH [DSUB 25 PIN 2.0M]	—

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	Model	Former model	Page	Item name	Former product code
GAT-	GAT-3G	GAT-3G	39	GALLON TANK [3 GALLONS]	834100
	GAT-5G	GAT-5G	39	GALLON TANK [5 GALLONS]	835100
GC-	GC-1	GC-1	13	PROTECTIVE CAP FOR SYRINGE TIP [E TYPE]	5D9100

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	Model	Former model	Page	Item name	Former product code
HC-	HC-1E-H	HC-1E-H	13	SYRINGE HEAD CAP [1ML HTYPE]	13200005
	HC-3E	HC-3E	13	SYRINGE HEAD CAP [3ML]	5C2100
	HC-3EU-B	HC-3EU-B	13	SYRINGE HEAD CAP [3ML UV TYPE]	13200019
	HC-5E	HC-5E	13	SYRINGE HEAD CAP [5ML]	5C3100
	HC-5EU-B	HC-5EU-B	13	SYRINGE HEAD CAP [5ML UV TYPE]	13200020
	HC-10C	HC-10C	13	SYRINGE HEAD CAP [10ML]	5C4200
	HC-10U-B	HC-10U-B	13	SYRINGE HEAD CAP [10ML UV TYPE BLACK]	13200021
	HC-50E	HC-50E	13	SYRINGE HEAD CAP [20/30/50/70ML]	5C7100
	HC-50EU-B	HC-50EU-B	13	SYRINGE HEAD CAP [20/30/50ML UV TYPE]	13200022
HC-100E	HC-100E	13	SYRINGE HEAD CAP [100ML]	5C8100	
HN-	HN-0.1N	HN-0.1N	14	PRECISION NOZZLE [ID0.1MM LUER LOCK]	651200
	HN-0.1ND	HN-0.1ND	14	PRECISION NOZZLE [ID0.1MM DOUBLE THREAD SCREWED]	651300
	HN-0.15N	HN-0.15N	14	PRECISION NOZZLE [ID0.15MM LUER LOCK]	652200
	HN-0.15ND	HN-0.15ND	14	PRECISION NOZZLE [ID0.15MM DOUBLE TREAD SCREWED]	652300
	HN-0.2N	HN-0.2N	14	PRECISION NOZZLE [ID0.2MM LUER LOCK]	653200
	HN-0.2ND	HN-0.2ND	14	PRECISION NOZZLE [ID0.2MM DOUBLE THREAD SCREWED]	653300
	HN-0.25N	HN-0.25N	14	PRECISION NOZZLE [ID0.25MM LUER LOCK]	654200
	HN-0.25ND	HN-0.25ND	14	PRECISION NOZZLE [ID0.25MM DOUBLE THREAD SCREWED]	654300
	HN-0.3N	HN-0.3N	14	PRECISION NOZZLE [ID0.3MM LUER LOCK]	655200
	HN-0.3ND	HN-0.3ND	14	PRECISION NOZZLE [ID0.3MM DOUBLE THREAD SCREWED]	655300
	HN-0.4N	HN-0.4N	14	PRECISION NOZZLE [ID0.4MM LUER LOCK]	656200
	HN-0.4ND	HN-0.4ND	14	PRECISION NOZZLE [ID0.4MM DOUBLE THREAD SCREWED]	656300
	HN-0.5N	HN-0.5N	14	PRECISION NOZZLE [ID0.5MM LUER LOCK]	657200
	HN-0.5ND	HN-0.5ND	14	PRECISION NOZZLE [ID0.5MM DOUBLE THREAD SCREWED]	657300
HN-0.6N	HN-0.6N	14	PRECISION NOZZLE [ID0.6MM LUER LOCK]	658200	
HN-0.6ND	HN-0.6ND	14	PRECISION NOZZLE [ID0.6MM DOUBLE THREAD SCREWED]	658300	
HPV-	HPV-2NC-2P	—	30	HIGH PRESSURE CORRESPONDING NEEDLE CONTROL VALVE [20MPa 2NC TYPE 2PORTS]	—
HS-	HS-1	HS-1	24	H-TYPE STAND	—

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	Model	Former model	Page	Item name	Former product code
J-	J-46BS	J-46BS	22	FLUID FEEDING TUBE CONNECTOR [R1/8 OD6MM ID4MM BS] JOINT	A33500
	J-B2B-6	J-B2B-6	22	FLUID FEEDING TUBE CONNECTOR[R1/4 OD6MMID4MM FLUOROCARBON RESIN]JOINT	A34E00
J-L	J-L1B-6	J-L1B-6	22	FLUID FEEDING ELBOW TUBE CONNECTOR [R1/8 OD6MM ID4MM SUS] JOINT	A32500
	J-L1B-48HP	J-L1B-48HP	22	FLUID FEEDING ELBOWTUBE CONNECTOR[R1/8 OD8MMID4MM USE HIGHPRESSURE]JOINT	A32601
	J-L2B-48HP	J-L2B-48HP	22	FLUIDFEEDING ELBOWTUBE CONNECTOR[R1/4 OD8MMID4MM USE HIGHPRESSURE]JOINT	A32F01
	J-LU2B-6	J-LU2B-6	22	PNEUMATIC ELBOW UNION [R1/4 OD6MM USE] JOINT	AA2E00
J-R	J-R-3	J-R-3	22	FLUID FEEDING TUBE CONNECTOR [2THREAD SCREWED LUER LOCKPLUG OD3MM]JOINT	A61300
	J-RT-3	J-RT-3	22	FLUID FEEDING TUBE CONNECTOR[2THREAD SCREWED LUERLOCK SOCKET OD3MM]JOINT	A62300
J-U	J-U2B-6	J-U2B-6	22	PNEUMATIC HALF UNION [R1/4 OD6MM] JOINT	AA1E00

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LS-	LS-2T-DSUB25-1.5M	—	23	HANDY SWITCH [LS-2T DSUB 25 PIN 1.5M]	—
	LS-2T-1604P	—	23	HANDY SWITCH [LS-2T TYPE 16 4PIN]	—
	LS-3T-DSUB25-1.5M	—	23	HANDY SWITCH [LS-3T DSUB 25 PIN 1.5M]	—
	LS-3T-1604P	LS-3T-1604P	23	HANDY SWITCH [LS-3T TYPE 16 4PIN]	C11700

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	LS-NH3-C1	LS-NH3-C1	24	TUBE COLLAR [C1 LS-NH3]	C1W105
	LS-NH3-C2	LS-NH3-C2	24	TUBE COLLAR [C2 LS-NH3]	C1W106
	LS-NH3-C3	LS-NH3-C3	24	TUBE COLLAR [C3LS-NH3]	C1W107
	LS-NH3-C4	LS-NH3-C4	24	TUBE COLLAR [C4 LS-NH3 USE]	C1W108
	LS-NH3-TG1	LS-NH3-TG1	24	CAP [TG1 LS-NH3]	C1W205
	LS-NH3-TG2	LS-NH3-TG2	24	CAP [TG2 LS-NH3]	C1W206
	LS-NH3-TG3	LS-NH3-TG3	24	CAP [TG3 LS-NH3]	C1W207
	LS-NH3-TG4	LS-NH3-TG4	24	CAP [TG4 LS-NH3]	C1W208
	LS-NH3-TG5	LS-NH3-TG5	24	CAP [TG5 LS-NH3]	C1W209
LT-	LT-23EX	LT-23EX	22	LUER LOCK TYPE EXTENSION TUBE	961K00
	LT-46	LT-46	22	FLUID FEEDING TUBE [OD6MM ID4MM NYLON]	962100
	LT-46T	LT-46T	22	FLUID FEEDING TUBE [OD6MM ID4MM FLUOROCARBON POLYMERS WHITE]	962500
	LT-48HP	LT-48HP	22	FLUID FEEDING TUBE [OD8MM ID4MM HIGH PRESSURE]	967100

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MC-	MC-1602P	MC-1602P	24	METAL CONNECTOR [PLUG TYPE 16 2 PIN]	C56100
	MC-1603P	MC-1603P	24	METAL CONNECTOR [PLUG TYPE 16 3PIN]	C56200
	MC-1604P	MC-1604P	24	METAL CONNECTOR [PLUG TYPE 16 4PIN]	C56300
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	ME-5000SP	—	26	DIGITAL CONTROLLED SPRAY VALVE CONTROLLER SPRAY MASTER	—
	ME-5000VT	—	26	DIGITAL CONTROLLED VALVE CONTROLLER VALVE MASTER	—
MGD-	MGD-7500	—	45	Inline enzyme/reagent dispensing system	—
MJET-	MJET-A-2-4CTR	◆ MJET-A-HU○-R/L (○ : S,M,L)	43	NON-CONTACT JET DISPENSER AEROJET	*1
	MJET-S-2	◆ —	43	NON-CONTACT JET DISPENSER SUPER JET2	—
MJP-	MJP-05	—	32	JUSTRO PUMP [05mL use]	—
	MJP-13	—	32	JUSTRO PUMP [13mL use]	—
ML-	ML-6000X	◆ —	42	HIGH PRECISION DIGITAL DISPENSER ML-6000X	—
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MLC-	MLC-6500	◆ MLC-6500	45	FULLY AUTOMATED SEAL DISPENSING MACHINE	—
MLP-	MLP-5E	MLP-5E	12	MIRACLE WIPER PLUNGER [5ML WHITE]	5B3700
	MLP-10E	MLP-10E	12	MIRACLE WIPER PLUNGER [10ML WHITE]	5B4700
	MLP-50E	MLP-50E	12	MIRACLE WIPER PLUNGER [20/30/50/70ML WHITE]	5B7700
	MLP-B-5E	MLP-B-5E	12	MIRACLE WIPER PLUNGER [5ML BLUE]	13200017
	MLP-B-10E	MLP-B-10E	12	MIRACLE WIPER PLUNGER [10ML BLUE]	13200018
	MLP-B-50E	MLP-B-50E	12	MIRACLE WIPER PLUNGER [20/30/50/70ML BLUE]	5B7N00
	MLP-R-5E	MLP-R-5E	12	MIRACLE WIPER PLUNGER [5ML RED]	13200016
	MLP-R-10E	MLP-R-10E	12	MIRACLE WIPER PLUNGER [10ML RED]	5B4F00
	MLP-R-50E	MLP-R-50E	12	MIRACLE WIPER PLUNGER [20/30/50/70ML RED]	5B7F00
MPP-	MPP-1	◆ MPP-1	43	VOLUME MEASURING TYPE DIGITAL CONTROL DISPENSER MEASURING MASTER	*1
MS-	MS-1	◆ MS-1	42	HIGH PRECISION ECO DISPENSER SMART SHOT	11100236
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	NC-3EU-B	NC-3EU-B	13	SYRINGE TIP CAP [DOUBLE THREAD SCREWED UV TYPE]	13200023
	NC-3FH	—	13	HEAT-RESISTANT SYRINGE TIP CAP	—
	NC-5E	NC-5E	13	SYRINGE TIP CAP [LUER LOCK KNURLED HARD WHITE]	5D7200
	NC-7E	NC-7E	13	SYRINGE TIP CAP [DOUBLE THREAD SCREWED KNURLED BLUE]	13200008
	NC-7EU-B	NC-7EU-B	13	SYRINGE TIP CAP [DOUBLE THREAD SCREWED KNURLED UV TYPE BLACK]	13200024
NCV-	NCV-7DV-2P	NCV-7DV	30	NEEDLE CONTROL VALVE [TYPE 7 2PORT ANAEROBIC WITH NCV-7DV-25]	723100
	NCV-10-1P	NCV-10	29	NEEDLE CONTROL VALVE [TYPE 10 1PORT]	724A00
	NCV-10-2P	NCV-10-2P	29	NEEDLE CONTROL VALVE [TYPE 10 2PORT]	724100
	NCV-10-T-1P	NCV-10-T	29	NEEDLE CONTROL VALVE [TYPE 10 1PORT FLUOROCARBON POLYMERS]	724B00
	NCV-10-T-2P	NCV-10-T-2P	29	NEEDLE CONTROL VALVE [TYPE 10 2PORT FLUOROCARBON POLYMERS]	724200
	NCV-10-U-1P	NCV-10-U	29	NEEDLE CONTROL VALVE [TYPE 10 1PORT UV]	724C00

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NCV-	NCV-10-U-2P	NCV-10-U-2P	29	NEEDLE CONTROL VALVE [TYPE 10 2PORT UV]	724300
	NCV-12S-2P	NCV-12S	29	NEEDLE CONTROL VALVE [TYPE 12S 2PORT]	725500
	NCV-17-1P-1N	NCV-17-1P-1N	28	NEEDLE CONTROL VALVE [TYPE 17 1PORT]	727A00
	NCV-17-1P-S6	NCV-17-1P-S6	28	NEEDLE CONTROL VALVE [TYPE 17 1PORT OD6MM SUS PIPE ATTACHED]	727D00
	NCV-17-L-1P-2N	NCV-17-L-1P-2N	28	NEEDLE CONTROL VALVE [TYPE 17 1PORT HIGH FLOW]	16100001
	NCV-17-L-1P-2N-RS	—	28	NEEDLE CONTROL VALVE MINIVAL [TYPE 17 1PORT HIGH FLOW RATE RESIN SPECIFICATION]	—
NK	NK-2	—	20	NOZZLE KIT [TYPE 2]	12300001
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	ORG-1.5-P-B-1	AOP-1E	11	ORING [PHI 1.5 MATERIAL P COLOR B #1]	13200025
	ORG-1.5-S-R-1	AOS-1E	11	ORING [PHI 1.5 MATERIAL S COLOR R #1]	13200002
	ORG-1.5-V-B-1	AOV-1E	11	ORING [PHI 1.5 MATERIAL V COLOR B #1]	13200001
	ORG-6-N-B-1	AON-3	11	ORING [PHI 6 MATERIAL N COLOR B #1]	5G2300
	ORG-6-P-B-1	AOP-3	11	ORING [PHI 6 MATERIAL P COLOR B #1]	13200011
	ORG-6-S-R-1	AOS-3	11	ORING [PHI 6 MATERIAL S COLOR R #1]	5G2C00
	ORG-6-V-B-1	AOV-3	11	ORING [PHI 6 MATERIAL V COLOR B #1]	5G2M00
	ORG-9-N-B-1	AON-5E	11	ORING [PHI 9 MATERIAL N COLOR B #1]	5G3100
	ORG-9-P-B-1	AOP-5E	11	ORING [PHI 9 MATERIAL P COLOR B #1]	13200012
	ORG-9-S-R-1	AOS-5E	11	ORING [PHI 9 MATERIAL S COLOR R #1]	5G3A00
	ORG-9-V-B-1	AOV-5E	11	ORING [PHI 9 MATERIAL V COLOR B #1]	5G3K00
	ORG-11-N-B-2	AON-10E	11	ORING [PHI 11 MATERIAL N COLOR B #2]	5G4100
	ORG-11-P-B-1	AOP-10E	11	ORING [PHI 11 MATERIAL P COLOR B #1]	13200013
	ORG-11-S-R-1	AOS-10E	11	ORING [PHI 11 MATERIAL S COLOR R #1]	5G4A00
	ORG-11-V-B-1	AOV-10E	11	ORING [PHI 11 MATERIAL V COLOR B #1]	5G4K00
	ORG-18-N-B-1	AON-50E	11	ORING [PHI 18 MATERIAL N COLOR B #1]	5G7100
	ORG-18-P-B-1	AOP-50E	11	ORING [PHI 18 MATERIAL P COLOR B #1]	13200014
ORG-18-S-R-1	AOS-50E	11	ORING [PHI 18 MATERIAL S COLOR R #1]	5G7A00	
ORG-18-V-B-1	AOV-50E	11	ORING [PHI 18 MATERIAL V COLOR B #1]	5G7K00	
ORG-24-N-B-2	AON-100E	11	ORING [PHI 24 MATERIAL N COLOR B #2]	13200009	
ORG-24-P-B-1	AOP-100E	11	ORING [PHI 24 MATERIAL P COLOR B #1]	13200015	
ORG-24-S-R-1	AOS-100E	11	ORING [PHI 24 MATERIAL S COLOR R #1]	5G8A00	
ORG-24-V-B-1	AOV-100E	11	ORING [PHI 24 MATERIAL V COLOR B #1]	5G8K00	
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	OTT-2L	OTT-2L	38	ONE TOUCH TANK [2L]	843100
	OTT-3L	OTT-3L	38	ONE TOUCH TANK [3L]	844100
	OTT-5L	OTT-5L	38	ONE TOUCH TANK [5L]	845100
	OTT-10L	OTT-10L	38	ONE TOUCH TANK [10L]	846100
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PN-	PN-15G-A	PN-15G-A	16	PLASTIC NEEDLE [15G NEEDLE LENGTH 8MM]	614100
	PN-15G-B	PN-15G-B	16	PLASTIC NEEDLE [15G NEEDLE LENGTH 13MM]	614A00
	PN-16G-A	PN-16G-A	16	PLASTIC NEEDLE [16G NEEDLE LENGTH 8MM]	615100
	PN-16G-B	PN-16G-B	16	PLASTIC NEEDLE [16G NEEDLE LENGTH 13MM]	615A00
	PN-17G-A	PN-17G-A	16	PLASTIC NEEDLE [17G NEEDLE LENGTH 8MM]	616100
	PN-17G-B	PN-17G-B	16	PLASTIC NEEDLE [17G NEEDLE LENGTH 13MM]	616A00
	PN-18G-A	PN-18G-A	16	PLASTIC NEEDLE [18G NEEDLE LENGTH 8MM]	617100
	PN-18G-B	PN-18G-B	16	PLASTIC NEEDLE [18G NEEDLE LENGTH 13MM]	617A00
	PN-19G-A	PN-19G-A	16	PLASTIC NEEDLE [19G NEEDLE LENGTH 8MM]	618100
	PN-19G-B	PN-19G-B	16	PLASTIC NEEDLE [19G NEEDLE LENGTH 13MM]	618A00
	PN-20G-A	PN-20G-A	16	PLASTIC NEEDLE [20G NEEDLE LENGTH 8MM]	619100
	PN-20G-B	PN-20G-B	16	PLASTIC NEEDLE [20G NEEDLE LENGTH 13MM]	619A00
	PN-21G-A	PN-21G-A	16	PLASTIC NEEDLE [21G NEEDLE LENGTH 8MM]	61A100
	PN-21G-B	PN-21G-B	16	PLASTIC NEEDLE [21G NEEDLE LENGTH 13MM]	61AA00
	PN-22G-A	PN-22G-A	16	PLASTIC NEEDLE [22G NEEDLE LENGTH 8MM]	61B100
	PN-22G-B	PN-22G-B	16	PLASTIC NEEDLE [22G NEEDLE LENGTH 13MM]	61BA00
	PN-23G-A	PN-23G-A	16	PLASTIC NEEDLE [23G NEEDLE LENGTH 8MM]	61C100
	PN-23G-B	PN-23G-B	16	PLASTIC NEEDLE [23G NEEDLE LENGTH 13MM]	61CA00

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	PN-24G-B	PN-24G-B	16	PLASTIC NEEDLE [24G NEEDLE LENGTH 13MM]	61DA00
	PN-25G-A	PN-25G-A	16	PLASTIC NEEDLE [25G NEEDLE LENGTH 8MM]	61E100
	PN-25G-B	PN-25G-B	16	PLASTIC NEEDLE [25G NEEDLE LENGTH 13MM]	61EA00
	PN-26G-A	PN-26G-A	16	PLASTIC NEEDLE [26G NEEDLE LENGTH 8MM]	61F100
	PN-26G-B	PN-26G-B	16	PLASTIC NEEDLE [26G NEEDLE LENGTH 13MM]	61FA00
	PN-27G-A	PN-27G-A	16	PLASTIC NEEDLE [27G NEEDLE LENGTH 8MM]	61G100
	PN-27G-B	PN-27G-B	16	PLASTIC NEEDLE [27G NEEDLE LENGTH 13MM]	61GA00
P-NADP-	P-NADP-11	—	22	NEEDLE ADAPTER [No.11]	—
	P-NADP-12	NA-2V	22	NEEDLE ADAPTER [No.12]	6B5100
	P-NADP-13	NA-2VT	22	NEEDLE ADAPTER [No.13]	6B6100
	P-NADP-14	NA-1	22	NEEDLE ADAPTER [No.14]	6B1100
	P-NADP-15	NA-1T	22	NEEDLE ADAPTER [No.15]	6B2100
	P-NADP-17	—	22	NEEDLE ADAPTER [No.17]	—
PPN-	PPN-15G	PPN-15G	19	SOFT NEEDLE [15G NEEDLE LENGTH 35.9MM] RESIN NOZZLE	694100
	PPN-16G	PPN-16G	19	SOFT NEEDLE [16G NEEDLE LENGTH 35.9MM] RESIN NOZZLE	695100
	PPN-18G	PPN-18G	19	SOFT NEEDLE [18G NEEDLE LENGTH 35.9MM] RESIN NOZZLE	697100
	PPN-20G	PPN-20G	19	SOFT NEEDLE [20G NEEDLE LENGTH 35.9MM] RESIN NOZZLE	699100
	PPN-22G	PPN-22G	19	SOFT NEEDLE [22G NEEDLE LENGTH 35.9MM] RESIN NOZZLE	698100
	PPN-25G	PPN-25G	19	SOFT NEEDLE [25G NEEDLE LENGTH 35.9MM] RESIN NOZZLE	69E100
PPV-	PPV-5-2P	PPV-5	32	PLUNGER PUMP VALVE [TYPE 5 2PORT]	771100
PSY-	PSY-1E2-M	PSY-1E2-M	7	CLEAR SYRINGE [1ML WITH SCALE]	13100005
	PSY-3E	PSY-3E	7	CLEAR SYRINGE [3ML]	512100
	PSY-3E-M	—	7	CLEAR SYRINGE [3ML WITH SCALE]	—
	PSY-3EU-OR	PSY-3EU-OR	7	UV BLOCK SYRINGE [3ML]	13100007
	PSY-3EU-OR-M	—	7	UV BLOCK SYRINGE [3ML WITH SCALES]	—
	PSY-5E	PSY-5E	7	CLEAR SYRINGE [5ML]	513100
	PSY-5E-M	PSY-5E-M	7	CLEAR SYRINGE [5ML WITH SCALE]	513200
	PSY-5E-PG	PSY-5E-PG	8	COLOR SYRINGE [5ML]	543100
	PSY-5EU-OR	PSY-5EU-OR	7	UV BLOCK SYRINGE [5ML]	13100008
	PSY-5EU-OR-M	PSY-5EU-OR-M	7	UV BLOCK SYRINGE [5ML WITH SCALES]	13100014
	PSY-10E	PSY-10E	7	CLEAR SYRINGE [10ML]	514100
	PSY-10E-M	PSY-10E-M	7	CLEAR SYRINGE [10ML WITH SCALE]	514200
	PSY-10E-PG	PSY-10E-PG	8	COLOR SYRINGE[10ML PEPPERMINT GREEN]	544100
	PSY-10E-SEP	PSY-10E-SEP	9	ANTI STATIC SYRINGE [10ML]	534100
	PSY-10EU-OR	PSY-10EU-OR	7	UV BLOCK SYRINGE [10ML]	13100009
	PSY-10EU-OR-M	PSY-10EU-OR-M	7	UV BLOCK SYRINGE [10ML WITH SCALES]	13100015
	PSY-20F	—	7	CLEAR SYRINGE [20ML F TYPE]	—
	PSY-20F-M	—	7	CLEAR SYRINGE [20ML F TYPE WITH GRADUATIONS]	—
	PSY-20F-PG	—	8	COLOR SYRINGE [20ML TYPE F PEPPERMINT GREEN]	—
	PSY-20FU-OR	—	7	UV BLOCK SYRINGE [20ML F TYPE]	—
	PSY-20FU-OR-M	—	7	UV BLOCK SYRINGE [20ML F TYPE WITH GRADUATIONS]	—
	PSY-20P	PSY-20P	8	MOUNTER-SPECIFIC SYRINGE [20ML]	515800
	PSY-30E-SEP	PSY-30E-SEP	9	ANTI STATIC SYRINGE [30ML]	536100
	PSY-30F	—	7	CLEAR SYRINGE [30ML F TYPE]	—
	PSY-30F-M	—	7	CLEAR SYRINGE [30ML TYPE F WITH GRADUATIONS]	—
	PSY-30F-PG	—	8	COLOR SYRINGE [30ML TYPE F PEPPERMINT GREEN]	—
	PSY-30FH-P	—	8	Heat-RESISTANT SYRINGE [30ML F TYPE GRADE P]	—
	PSY-30FH2-P	—	8	HEAT-RESISTANT SYRINGE [30ML F2 TYPE GRADE P]	—
	PSY-30FU-OR	—	7	UV BLOCK SYRINGE [30ML F TYPE]	—
	PSY-30FU-OR-M	—	7	UV BLOCK SYRINGE [30ML TYPE F WITH GRADUATIONS]	—
	PSY-50E-SEP	PSY-50E-SEP	9	ANTI STATIC SYRINGE [50ML]	537100
	PSY-50F	—	7	CLEAR SYRINGE [50ML F TYPE]	—
	PSY-50F-M	—	7	CLEAR SYRINGE [50ML TYPE F WITH GRADUATIONS]	—
PSY-50F-PG	—	8	COLOR SYRINGE [50ML TYPE F PEPPERMINT GREEN]	—	
PSY-50FU-OR	—	7	UV BLOCK SYRINGE [50ML F TYPE]	—	
PSY-50FU-OR-M	—	7	UV BLOCK SYRINGE [50ML TYPE F WITH GRADUATIONS]	—	
PSY-70F	—	7	CLEAR SYRINGE [70ML F TYPE]	—	
PSY-70F-M	—	7	CLEAR SYRINGE [70ML TYPE F WITH GRADUATIONS]	—	
PSY-70FU-OR	—	7	UV BLOCK SYRINGE [70ML F TYPE]	—	
PSY-70FU-OR-M	—	7	UV BLOCK SYRINGE [70ML TYPE F WITH GRADUATIONS]	—	
PSY-100E	PSY-100E	7	CLEAR SYRINGE [100ML]	518100	
PSY-100EU-OR	—	7	UV BLOCK SYRINGE [100ML]	—	

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	Model	Former model	Page	Item name	Former product code
QP-	QP-1B	QP-1B	22	PNEUMATIC QUICK JOINT [PLUG R1/8]	AB1200
	QP-1N	QP-1N	22	PNEUMATIC QUICK JOINT [PLUG RC1/8] JOINT	AB1100
	QP-2B	QP-2B	22	PNEUMATIC QUICK JOINT [PLUG R1/4] JOINT	AB1400
	QP-2N	QP-2N	22	PNEUMATIC QUICK JOINT [PLUG RC1/4] JOINT	AB1300
	QP-TK1	QP-TK1	22	PNEUMATIC QUICK JOINT [PLUG OD6MM ID3MM USE BARBED JOINT] JOINT	AB1600
QS-	QS-1N	QS-1N	22	PNEUMATIC QUICK JOINT [SOCKET RC1/8] JOINT	AB1A00
	QS-2B	QS-2B	22	PNEUMATIC QUICK JOINT [SOCKET R1/4] JOINT	AB1D00
	QS-2N	QS-2N	22	PNEUMATIC QUICK JOINT [SOCKET RC1/4] JOINT	AB1C00
	QS-2NN	QS-2NN	22	PNEUMATIC QUICK JOINT [SOCKET RC1/4 WITHOUT VALVE] JOINT	AB1K00
	QS-TK1	QS-TK1	22	PNEUMATIC QUICK JOINT [SOCKET OD6MM ID3MM USE BARBED JOINT] JOINT	AB1L00

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	Model	Former model	Page	Item name	Former product code
RA-	RA-2B	RA-2B	23	REGULATOR/AIR GAUGE [0.2MPA]	C33100
	RA-7B	RA-7B	23	REGULATOR/AIR GAUGE [0.7MPA]	C33200

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	Model	Former model	Page	Item name	Former product code
SBP-	SBP-0.5L-01	SBP-0.5L-01	39	INTERNAL CONTAINER [0.5L FLUID FEED TANK USE]	17200001
	SBP-1L-01	SBP-1L-01	39	INTERNAL CONTAINER [1L FLUID FEED TANK USE]	17200002
	SBP-2L-01	SBP-2L-01	39	INTERNAL CONTAINER [2L FLUID FEED TANK]	17200003
	SBP-3L-01	SBP-3L-01	39	INTERNAL CONTAINER [3L FLUID FEED TANK USE]	17200004
	SBP-5L-01	SBP-5L-01	39	INTERNAL CONTAINER [4L FLUID FEED TANK USE]	17200005
	SBP-10L-01	SBP-10L-01	39	INTERNAL CONTAINER [5L FLUID FEED TANK USE]	17200006
	SBP-20L	SBP-20L	39	INTERNAL CONTAINER [6L FLUID FEED TANK USE]	8A7100
SH-	SH-2	SH-2	24	H-TYPE STAND UNIT CLAMP	C22101
SHN-	SHN-0.1N	SHN-0.1N	14	PRECISION SOLID NOZZLE [ID0.1MM]	651500
	SHN-0.15N	SHN-0.15N	14	PRECISION SOLID NOZZLE [ID0.15MM]	652500
	SHN-0.2N	SHN-0.2N	14	PRECISION SOLID NOZZLE [ID 0.2MM]	653500
	SHN-0.25N	SHN-0.25N	14	PRECISION SOLID NOZZLE [ID 0.25MM]	654500
	SHN-0.3N	SHN-0.3N	14	PRECISION SOLID NOZZLE [ID 0.3MM]	655500
	SHN-0.35N	SHN-0.35N	14	PRECISION SOLID NOZZLE [ID 0.35MM]	656500
	SHN-0.4N	SHN-0.4N	14	PRECISION SOLID NOZZLE [ID 0.4MM]	657500
	SHN-0.45N	SHN-0.45N	14	PRECISION SOLID NOZZLE [ID 0.45MM]	658500
	SHN-0.5N	SHN-0.5N	14	PRECISION SOLID NOZZLE [ID 0.5MM]	659500
SHN-0.6N	—	14	PRECISION SOLID NOZZLE [ID 0.6MM]	—	
SM-	SM□SX-[3A/4A]-SS ◆	—	44	DESKTOP ROBOT SHOTMINI 100-200SX/SHOTMASTER 300-500SX	—
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	SNA-0.10N-6L-F	—	15	THIN-WALLED METAL NEEDLE [SNA ID0.10MM NEEDLE LENGTH6MM]	—
	SNA-0.20N-4L-F	—	15	THIN-WALLED METAL NEEDLE [SNA ID0.20MM NEEDLE LENGTH4MM]	—
	SNA-0.20N-6L-F	—	15	THIN-WALLED METAL NEEDLE [SNA ID0.20MM NEEDLE LENGTH6MM]	—
	SNA-0.30N-4L-F	—	15	THIN-WALLED METAL NEEDLE [SNA ID0.30MM NEEDLE LENGTH4MM]	—
	SNA-0.30N-6L-F	—	15	THIN-WALLED METAL NEEDLE [SNA ID0.30MM NEEDLE LENGTH6MM]	—
	SNA-12G-B	SNA-12G-B	15	METAL NEEDLE [SNA 12G NEEDLE LENGTH13MM]	621600
	SNA-12G-C	SNA-12G-C	15	METAL NEEDLE [SNA 12G NEEDLE LENGTH15MM]	621700
	SNA-13G-B	SNA-13G-B	15	METAL NEEDLE [SNA 13G NEEDLE LENGTH13MM]	622600
	SNA-13G-C	SNA-13G-C	15	METAL NEEDLE [SNA 13G NEEDLE LENGTH15MM]	622700
	SNA-14G-B	SNA-14G-B	15	METAL NEEDLE [SNA 14G NEEDLE LENGTH13MM]	623600
	SNA-14G-C	SNA-14G-C	15	METAL NEEDLE [SNA 14G NEEDLE LENGTH15MM]	623700
	SNA-15G-B	SNA-15G-B	15	METAL NEEDLE [SNA 15G NEEDLE LENGTH13MM]	624600
	SNA-15G-C	SNA-15G-C	15	METAL NEEDLE [SNA 15G NEEDLE LENGTH15MM]	624700
	SNA-16G-B	SNA-16G-B	15	METAL NEEDLE [SNA 16G NEEDLE LENGTH13MM]	625600
	SNA-16G-C	SNA-16G-C	15	METAL NEEDLE [SNA 16G NEEDLE LENGTH15MM]	625700
	SNA-17G-B	SNA-17G-B	15	METAL NEEDLE [SNA 17G NEEDLE LENGTH13MM]	626600
	SNA-17G-C	SNA-17G-C	15	METAL NEEDLE [SNA 17G NEEDLE LENGTH15MM]	626700
	SNA-18G-B	SNA-18G-B	15	METAL NEEDLE [SNA 18G NEEDLE LENGTH13MM]	627600
	SNA-18G-C	SNA-18G-C	15	METAL NEEDLE [SNA 18G NEEDLE LENGTH15MM]	627700
	SNA-19G-B	SNA-19G-B	15	METAL NEEDLE [SNA 19G NEEDLE LENGTH13MM]	628600
	SNA-19G-C	SNA-19G-C	15	METAL NEEDLE [SNA 19G NEEDLE LENGTH15MM]	628700
	SNA-20G-B	SNA-20G-B	15	METAL NEEDLE [SNA 20G NEEDLE LENGTH13MM]	629600
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	SNA-21G-C	SNA-21G-C	15	METAL NEEDLE [SNA 21G NEEDLE LENGTH15MM]	62A700
	SNA-22G-B	SNA-22G-B	15	METAL NEEDLE [SNA 22G NEEDLE LENGTH13MM]	62B600
	SNA-22G-C	SNA-22G-C	15	METAL NEEDLE [SNA 22G NEEDLE LENGTH15MM]	62B700
	SNA-23G-B	SNA-23G-B	15	METAL NEEDLE [SNA 23G NEEDLE LENGTH13MM]	62C600
	SNA-23G-C	SNA-23G-C	15	METAL NEEDLE [SNA 23G NEEDLE LENGTH15MM]	62C700
	SNA-24G-B	SNA-24G-B	15	METAL NEEDLE [SNA 24G NEEDLE LENGTH13MM]	62D600
	SNA-24G-C	SNA-24G-C	15	METAL NEEDLE [SNA 24G NEEDLE LENGTH15MM]	62D700
	SNA-25G-B	SNA-25G-B	15	METAL NEEDLE [SNA 25G NEEDLE LENGTH13MM]	62E600
	SNA-25G-C	SNA-25G-C	15	METAL NEEDLE [SNA 25G NEEDLE LENGTH15MM]	62E700
	SNA-26G-B	SNA-26G-B	15	METAL NEEDLE [SNA 26G NEEDLE LENGTH13MM]	62F600
	SNA-26G-C	SNA-26G-C	15	METAL NEEDLE [SNA 26G NEEDLE LENGTH15MM]	62F700
	SNA-27G-B	SNA-27G-B	15	METAL NEEDLE [SNA 27G NEEDLE LENGTH13MM]	62G600
	SNA-27G-C	SNA-27G-C	15	METAL NEEDLE [SNA 27G NEEDLE LENGTH15MM]	62G700
	SNA-28G-B	SNA-28G-B	15	METAL NEEDLE [SNA 28G NEEDLE LENGTH13MM]	62H600
	SNA-28G-C	SNA-28G-C	15	METAL NEEDLE [SNA 28G NEEDLE LENGTH15MM]	62H700
	SNA-30G-B	SNA-30G-B	15	METAL NEEDLE [SNA 30G NEEDLE LENGTH13MM]	62J600
	SNA-30G-C	SNA-30G-C	15	METAL NEEDLE [SNA 30G NEEDLE LENGTH15MM]	62J700
	SNA-31G-B	—	15	METAL NEEDLE [SNA 31G NEEDLE LENGTH13MM]	—
	SNA-31G-C	—	15	METAL NEEDLE [SNA 31G NEEDLE LENGTH15MM]	—
SNA-32G-B	—	15	METAL NEEDLE [SNA 32G NEEDLE LENGTH13MM]	—	
SNA-32G-C	—	15	METAL NEEDLE [SNA 32G NEEDLE LENGTH15MM]	—	
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	SOT-6.3L	SOT-3L	37	STRAIGHT ONE TOUCH TANK [6.3L]	874100
	SOT-12.7L	SOT-5L	37	STRAIGHT ONE TOUCH TANK [12.7L]	875100
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	SPN-0.17-9.5L	SPN-0.17-9.5L	16	SHARP NEEDLE[ID0.17MM NEEDLE LENGTH 9.5MM] BODY: PLASTIC	6DL200
	SPN-0.25-12.7L	SPN-0.25-12.7L	16	SHARP NEEDLE[ID0.25MM NEEDLE LENGTH 12.7MM] BODY: PLASTIC	6DL400
	SPN-0.33-12.7L	SPN-0.33-12.7L	16	SHARP NEEDLE[ID0.33MM NEEDLE LENGTH 12.7MM] BODY: PLASTIC	6DK400
	SPN-0.41-38.1L	SPN-0.41-38.1L	16	SHARP NEEDLE[ID0.41MM NEEDLE LENGTH 38.1MM] BODY: PLASTIC	6DK300
	SPN-0.58-38.1L	SPN-0.58-38.1L	16	SHARP NEEDLE[ID0.58MM NEEDLE LENGTH 38.1MM] BODY: PLASTIC	6DJ300
	SPN-0.84-12.7L	SPN-0.84-12.7L	16	SHARP NEEDLE[ID0.84MM NEEDLE LENGTH 12.7MM] BODY: PLASTIC	6DJ400
SST-	SST-1.7L	SST-0.5L	38	TANK FOR SAFETY LOCK [1.7L]	851100
	SST-2.2L	SST-1L	38	TANK FOR SAFETY LOCK [2.2L]	852100
	SST-5.5L	SST-2L	38	TANK FOR SAFETY LOCK [5.5L]	853100
	SST-6.2L	SST-3L	38	TANK FOR SAFETY LOCK [6.2L]	854100
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	SST-20.3L	SST-10L	38	TANK FOR SAFETY LOCK [20.3L]	856100
	SST-38.5L	SST-20L	38	TANK FOR SAFETY LOCK [38.5L]	857100
SSY-	SSY-1B	SSY-1B	9	STAINLESS SYRINGE [1ML]	551B00
	SSY-3E	—	9	STAINLESS SYRINGE [3ML]	552B00
	SSY-5E	—	9	STAINLESS SYRINGE [5ML]	553100
	SSY-10E	—	9	STAINLESS SYRINGE [10ML]	554100
	SSY-30E	—	9	STAINLESS SYRINGE [30ML]	556100
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	SV-6-1.3X	SV-6-1.3X	34	SPRAY VALVE [SV-6 NOMINAL SIZE 1.3MM]	16100037
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	SV-6R-0.5X	SV-6R-0.5X	34	SPRAY VALVE [SV-6R NOMINAL SIZE 0.5MM]	16100041
	SV-6R-1.0X	SV-6R-1.0X	34	SPRAY VALVE [SV-6R NOMINAL SIZE 1.0MM]	16100042
	SV-6R-1.3X	SV-6R-1.3X	34	SPRAY VALVE [SV-6R NOMINAL SIZE 1.3MM]	16100043
	SV-6R-2.0X	SV-6R-2.0X	34	SPRAY VALVE [SV-6R NOMINAL SIZE 2.0MM]	16100044
	SV-6RW-1.0X	SV-6RW-1.0X	34	SPRAY VALVE [SV-6RW NOMINAL SIZE 1.0MM]	16100045
	SV-6RW-1.3X	SV-6RW-1.3X	34	SPRAY VALVE [SV-6RW NOMINAL SIZE 1.3MM]	16100046
	SV-6RW-2.0X	SV-6RW-2.0X	34	SPRAY VALVE [SV-6RW NOMINAL SIZE 2.0MM]	16100047
	SV-6SK-0.5X	SV-6SK-0.5X	34	SPRAY VALVE [SV-6SK NOMINAL SIZE 0.5MM]	16100039
	SV-6SK-1.0X	SV-6SK-1.0X	34	SPRAY VALVE [SV-6SK NOMINAL SIZE 1.0MM]	16100040
	SVM-	SVM-6LX	SVM-6LX	34	SPRAY VALVE [SVM-6LX]
SYS-	SYS-1A	SYS-1A	23	SYRINGE STAND [5ML USE TYPE A]	11200002
	SYS-2A	SYS-2A	23	SYRINGE STAND [10ML USE TYPE A]	11200003
	SYS-3A	SYS-3A	23	SYRINGE STAND [20/30/50ML TYPE A]	11200004

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	SYS-10B	—	23	SYRINGE STAND [FOR 10ML SYRINGE LS-3T/2T USE]	—
	SYS-20B	—	23	SYRINGE STAND [FOR 20ML SYRINGE LS-3T/2T USE]	—
	SYS-30B	—	23	SYRINGE STAND [FOR 30ML SYRINGE LS-3T/2T USE]	—
	SYS-50B	—	23	SYRINGE STAND [FOR 50ML SYRINGE LS-3T/2T USE]	—
	SYS-CAP	SYS-CAP	23	NOZZLE DRY PREVENTION CAP [SYS-1/2/3A USE]	11200005
	SYS-CAP-7	—	23	NOZZLE DRY REDUCTION CAP [FOR SYS-B ID: 7.0 WITH LS-3T]	—
	SYS-CAP-8.5	—	23	NOZZLE DRY REDUCTION CAP [FOR SYS-B ID: 8.5 WITH LS-3T]	—
SYS-CAP-10	—	23	NOZZLE DRY REDUCTION CAP [FOR SYS-B ID: 10.0 WITH LS-2T/NO HANDY SWITCH]	—	

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	Model	Former model	Page	Item name	Former product code
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	TCV-S3-1-20KP	TCV-S3-1-20KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 20KP LUER LOCK PLUG]	762100
	TCV-S3-1-30KP	TCV-S3-1-30KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 30KP LUER LOCK PLUG]	763100
	TCV-S3-1-50KP	TCV-S3-1-50KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 50KP LUER LOCK PLUG]	764100
	TCV-S3-1-70KP	TCV-S3-1-70KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 70KP LUER LOCK PLUG]	765100
	TCV-S3-1-100KP	TCV-S3-1-100KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 100KP LUER LOCK PLUG]	766100
	TCV-S3-1-150KP	TCV-S3-1-150KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 150KP LUER LOCK PLUG]	767100
	TCV-S3-1-200KP	TCV-S3-1-200KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 200KP LUER LOCK PLUG]	768100
	TCV-S3-1-220KP	TCV-S3-1-220KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 220KP LUER LOCK PLUG]	769100
	TCV-S3-2-10KP	TCV-S3-2-10KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 10KP R1/4]	761200
	TCV-S3-2-20KP	TCV-S3-2-20KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 20KP R1/4]	762200
	TCV-S3-2-30KP	TCV-S3-2-30KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 30KP R1/4]	763200
	TCV-S3-2-50KP	TCV-S3-2-50KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 50KP R1/4]	764200
	TCV-S3-2-70KP	TCV-S3-2-70KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 70KP R1/4]	765200
	TCV-S3-2-100KP	TCV-S3-2-100KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 100KP R1/4]	766200
	TCV-S3-2-150KP	TCV-S3-2-150KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 150KP R1/4]	767200
	TCV-S3-2-200KP	TCV-S3-2-200KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 200KP R1/4]	768200
	TCV-S3-2-220KP	TCV-S3-2-220KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 220KP R1/4]	769200
	TCV-S3-3-10KP	TCV-S3-3-10KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 10KP R1/8]	761300
	TCV-S3-3-20KP	TCV-S3-3-20KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 20KP R1/8]	762300
	TCV-S3-3-30KP	TCV-S3-3-30KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 30KP R1/8]	763300
	TCV-S3-3-50KP	TCV-S3-3-50KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 50KP R1/8]	764300
	TCV-S3-3-70KP	TCV-S3-3-70KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 70KP R1/8]	765300
	TCV-S3-3-100KP	TCV-S3-3-100KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 100KP R1/8]	766300
	TCV-S3-3-150KP	TCV-S3-3-150KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 150KP R1/8]	767300
	TCV-S3-3-200KP	TCV-S3-3-200KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 200KP R1/8]	768300
	TCV-S3-3-220KP	TCV-S3-3-220KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 220KP R1/8]	769300
	TCV-S3-4-10KP	TCV-S3-4-10KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 10KP M6]	761400
	TCV-S3-4-20KP	TCV-S3-4-20KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 20KP M6]	762400
	TCV-S3-4-30KP	TCV-S3-4-30KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 30KP M6]	763400
	TCV-S3-4-50KP	TCV-S3-4-50KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 50KP M6]	764400
	TCV-S3-4-70KP	TCV-S3-4-70KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 70KP M6]	765400
	TCV-S3-4-100KP	TCV-S3-4-100KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 100KP M6]	766400
	TCV-S3-4-150KP	TCV-S3-4-150KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 150KP M6]	767400
	TCV-S3-4-200KP	TCV-S3-4-200KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 200KP M6]	768400
	TCV-S3-4-220KP	TCV-S3-4-220KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 220KP M6]	769400
	TCV-S3T-1-10KP	TCV-S3T-1-10KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 10KP LUER LOCK PLUG FLUOROCARBON COATED]	761600
	TCV-S3T-1-20KP	TCV-S3T-1-20KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 20KP LUER LOCK PLUG FLUOROCARBON COATED]	762600
	TCV-S3T-1-30KP	TCV-S3T-1-30KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 30KP LUER LOCK PLUG FLUOROCARBON COATED]	763600
	TCV-S3T-1-50KP	TCV-S3T-1-50KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 50KP LUER LOCK PLUG FLUOROCARBON COATED]	764600
TCV-S3T-1-70KP	TCV-S3T-1-70KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 70KP LUER LOCK PLUG FLUOROCARBON COATED]	765600	
TCV-S3T-1-100KP	TCV-S3T-1-100KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 100KP LUER LOCK PLUG FLUOROCARBON COATED]	766600	
TCV-S3T-1-150KP	TCV-S3T-1-150KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 150KP LUER LOCK PLUG FLUOROCARBON COATED]	767600	
TCV-S3T-1-200KP	TCV-S3T-1-200KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 200KP LUER LOCK PLUG FLUOROCARBON COATED]	768600	
TCV-S3T-1-220KP	TCV-S3T-1-220KP	35	FLUID DRIP PREVENTION VALVE [SPRING PRESSURE 220KP LUER LOCK PLUG FLUOROCARBON COATED]	769600	
TK-	TK-2B	TK-2B	22	PNEUMATIC BARBED JOINT [R1/4 OD10MM ID8MM USE] JOINT	AA5I00
TN-	TN-0.1-13.7-SUSG	TN-0.1-13.7-SUSG	18	PTFE NEEDLE WITH SUS GUIDE[ID0.1MM ODO.3MM NEEDLE LENGTH 13.7MM]	63KB00
	TN-0.1-26.4-SUSG	TN-0.1-26.4-SUSG	18	PTFE NEEDLE WITH SUS GUIDE[ID0.1MM ODO.3MM NEEDLE LENGTH 26.4MM]	63KC00
	TN-0.2-13.7-SUSG	TN-0.2-13.7-SUSG	18	PTFE NEEDLE WITH SUS GUIDE[ID0.2MM ODO.4MM NEEDLE LENGTH 13.7MM] RESIN	63LB00
	TN-0.2-26.4-SUSG	TN-0.2-26.4-SUSG	18	PTFE NEEDLE WITH SUS GUIDE[ID0.2MM ODO.4MM NEEDLE LENGTH 26.4MM]	63LC00
	TN-0.3-13.7-SUSG	TN-0.3-13.7-SUSG	18	PTFE NEEDLE WITH SUS GUIDE[ID0.3MM ODO.5MM NEEDLE LENGTH 13.7MM]	63MB00
	TN-0.3-26.4-SUSG	TN-0.3-26.4-SUSG	18	PTFE NEEDLE WITH SUS GUIDE[ID0.3MM ODO.5MM NEEDLE LENGTH 26.4MM]	63MC00
	TN-13G	TN-13G	17	PTFE NOZZLE [13G NEEDLE LENGTH 8MM] RESIN NOZZLE	632100
TN-13G-U	—	17	UV BLOCK PTFE NOZZLE [13G NEEDLE LENGTH 8MM] RESIN NOZZLE	—	

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(Alphabetical order)

	Model	Former model	Page	Item name	Former product code
TN-	TN-14G	TN-14G	17	PTFE NOZZLE [14G NEEDLE LENGTH 8MM] RESIN NOZZLE	633100
	TN-14G-U	—	17	UV BLOCK PTFE NOZZLE [14G NEEDLE LENGTH 8MM] RESIN NOZZLE	—
	TN-15G	TN-15G	17	PTFE NOZZLE [15G NEEDLE LENGTH 8MM] RESIN NOZZLE	634100
	TN-15G-U	—	17	UV BLOCK PTFE NOZZLE [15G NEEDLE LENGTH 8MM] RESIN NOZZLE	—
	TN-16G	TN-16G	17	PTFE NOZZLE [16G NEEDLE LENGTH 8MM] RESIN NOZZLE	635100
	TN-16G-U	—	17	UV BLOCK PTFE NOZZLE [16G NEEDLE LENGTH 8MM] RESIN NOZZLE	—
	TN-16G-□L-13G-□L	TN-16G-□L-13G-□L	18	PTFE NOZZLE WITH SUS GUIDE [16G, needle length □mm, guide 13G □mm]	—
	TN-17G	TN-17G	17	PTFE NOZZLE [17G NEEDLE LENGTH 8MM] RESIN NOZZLE	636100
	TN-17G-U	—	17	UV BLOCK PTFE NOZZLE [17G NEEDLE LENGTH 8MM] RESIN NOZZLE	—
	TN-17G-□L-14G-□L	TN-17G-□L-14G-□L	18	PTFE NOZZLE WITH SUS GUIDE [17G, needle length □mm, guide 14G □mm]	—
	TN-18G	TN-18G	17	PTFE NOZZLE [18G NEEDLE LENGTH 8MM] RESIN NOZZLE	637100
	TN-18G-U	—	17	UV BLOCK PTFE NOZZLE [18G NEEDLE LENGTH 8MM] RESIN NOZZLE	—
	TN-18G-□L-14G-□L	TN-18G-□L-14G-□L	18	PTFE NOZZLE WITH SUS GUIDE [18G, needle length □mm, guide 14G □mm]	—
	TN-19G	TN-19G	17	PTFE NOZZLE [19G NEEDLE LENGTH 8MM] RESIN NOZZLE	638100
	TN-19G-U	—	17	UV BLOCK PTFE NOZZLE [19G NEEDLE LENGTH 8MM] RESIN NOZZLE	—
	TN-19G-□L-15G-□L	TN-19G-□L-15G-□L	18	PTFE NOZZLE WITH SUS GUIDE [19G, needle length □mm, guide 15G □mm]	—
	TN-20G	TN-20G	17	PTFE NOZZLE [20G NEEDLE LENGTH 8MM] RESIN NOZZLE	639100
	TN-20G-U	—	17	UV BLOCK PTFE NOZZLE [20G NEEDLE LENGTH 8MM] RESIN NOZZLE	—
	TN-20G-□L-16G-□L	TN-20G-□L-16G-□L	18	PTFE NOZZLE WITH SUS GUIDE [20G, needle length □mm, guide 16G □mm]	—
	TN-21G	TN-21G	17	PTFE NEEDLE [21G NOZZLE LENGTH 8MM] RESIN NOZZLE	63A100
TN-21G-U	—	17	UV BLOCK PTFE NOZZLE [21G NEEDLE LENGTH 8MM] RESIN NOZZLE	—	
TN-21G-□L-17G-□L	TN-21G-□L-17G-□L	18	PTFE NOZZLE WITH SUS GUIDE [21G, needle length □mm, guide 17G □mm]	—	
TN-22G	TN-22G	17	PTFE NOZZLE [22G NEEDLE LENGTH 8MM] RESIN NOZZLE	63B100	
TN-22G-U	—	17	UV BLOCK PTFE NOZZLE [22G NEEDLE LENGTH 8MM] RESIN NOZZLE	—	
TN-22G-□L-18G-□L	TN-22G-□L-18G-□L	18	PTFE NOZZLE WITH SUS GUIDE [22G needle length □mm, guide 18G □mm]	—	
TPND-	TPND-12G-U	—	17	DOUBLE THREAD SCREWED TAPERED NOZZLE [12G]	—
	TPND-14G-U	—	17	DOUBLE THREAD SCREWED TAPERED NOZZLE [14G]	—
	TPND-16G-U	—	17	DOUBLE THREAD SCREWED TAPERED NOZZLE [16G]	—
	TPND-18G-U	—	17	DOUBLE THREAD SCREWED TAPERED NOZZLE [18G]	—
	TPND-20G-U	—	17	DOUBLE THREAD SCREWED TAPERED NOZZLE [20G]	—
	TPND-22G-U	—	17	DOUBLE THREAD SCREWED TAPERED NOZZLE [22G]	—
	TPND-25G-U	—	17	DOUBLE THREAD SCREWED TAPERED NOZZLE [25G]	—
	TPND-27G-U	—	17	DOUBLE THREAD SCREWED TAPERED NOZZLE [27G]	—
TPND-30G-U	—	17	DOUBLE THREAD SCREWED TAPERED NOZZLE [30G]	—	
TPP-	TPP-5E	—	12	SHUTTLE TYPE PLUNGER [5ML CLEAR]	5B3100
	TPP-10E	—	12	SHUTTLE TYPE PLUNGER [10ML CLEAR]	5B4100
	TPP-30/50E	—	12	50ML TYPE PLUNGER	5B7100
TT-	TT-10	TT-10	24	PTFE TUBE [OD3.29MM ID2.69MM]	91I100
	TT-10B	TT-10B	24	PTFE TUBE [OD3.29MM ID2.69MM BLACK]	92I100
	TT-11	TT-11	24	PTFE TUBE [OD3.01MM ID2.41MM]	91H100
	TT-11B	TT-11B	24	PTFE TUBE [OD3.01MM ID2.41MM BLACK]	92H100
	TT-12	TT-12	24	PTFE TUBE [OD2.76MM ID2.16MM]	91G100
	TT-12B	TT-12B	24	PTFE TUBE [OD2.76MM ID2.16MM BLACK]	92G100
	TT-13	TT-13	24	PTFE TUBE [OD2.53MM ID1.93MM]	91F100
	TT-13B	TT-13B	24	PTFE TUBE [OD2.53MM ID1.93MM BLACK]	92F100
	TT-14	TT-14	24	PTFE TUBE [OD2.28MM ID1.68MM]	91E100
	TT-15	TT-15	24	PTFE TUBE [OD2.10MM ID1.50MM]	91D100
	TT-15B	TT-15B	24	PTFE TUBE [OD2.10MM ID1.50MM BLACK]	92D100
	TT-16	TT-16	24	PTFE TUBE [OD1.95MM ID1.35MM]	91C100
	TT-16B	TT-16B	24	PTFE TUBE [OD1.95MM ID1.35MM BLACK]	92C100
	TT-17	TT-17	24	PTFE TUBE [OD1.79MM ID1.19MM]	91B100
	TT-17B	TT-17B	24	PTFE TUBE [OD1.79MM ID1.19MM BLACK]	92B100
	TT-18	TT-18	24	PTFE TUBE [OD1.67MM ID1.07MM]	91A100
	TT-18B	TT-18B	24	PTFE TUBE [OD1.67MM ID1.07MM BLACK]	92A100
	TT-19	TT-19	24	PTFE TUBE [OD1.56MM ID0.96MM]	919100
	TT-19B	TT-19B	24	PTFE TUBE [OD1.56MM ID0.96MM BLACK]	929100
	TT-20	TT-20	24	PTFE TUBE [OD1.46MM ID0.86MM]	918100
	TT-20B	TT-20B	24	PTFE TUBE [OD1.46MM ID0.86MM BLACK]	928100
	TT-21	TT-21	24	PTFE TUBE [OD1.31MM ID0.81MM]	917100
	TT-21B	TT-21B	24	PTFE TUBE [OD1.31MM ID0.81MM BLACK]	927100
	TT-22	TT-22	24	PTFE TUBE [OD1.18MM ID0.68MM]	916100
	TT-22B	TT-22B	24	PTFE TUBE [OD1.18MM ID0.68MM BLACK]	926100
	TT-24	TT-24	24	PTFE TUBE [OD1.06MM ID0.56MM]	915100
	TT-24B	TT-24B	24	PTFE TUBE [OD1.06MM ID0.56MM BLACK]	925100
	TT-26	TT-26	24	PTFE TUBE [OD0.92MM ID0.46MM]	914100
TT-26B	TT-26B	24	PTFE TUBE [OD0.92MM ID0.46MM BLACK]	924100	
TT-28	TT-28	24	PTFE TUBE [OD0.84MM ID0.38MM]	913100	
TT-28B	TT-28B	24	PTFE TUBE [OD0.84MM ID0.38MM BLACK]	923100	

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	Model	Former model	Page	Item name	Former product code
TT-	TT-30	TT-30	24	PTFE TUBE [OD0.76MM ID0.30MM]	912100
	TT-30B	TT-30B	24	PTFE TUBE [OD0.76MM ID0.30MM BLACK]	922100
	TT-32	TT-32	24	PTFE TUBE [OD0.75MM ID0.25MM]	911100

V

	Model	Former model	Page	Item name	Former product code
VSD	VSD-1 ◆	—	43	HIGH-PERFORMANCE MOHNO DISPENSER MOHNO MASTER	—

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	Model	Former model	Page	Item name	Former product code
XM	XM□RX-3A-L-[SBA/AAS] ◆	—	44	CARTESIAN ROBOT CROSSMASTER □RX MAIN BODY [3-AXIS L TYPE AXIS ASSEMBLY SET]	—

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	Model	Former model	Page	Item name	Former product code
Please select the specification meeting with your requirements. Please contact our sales department for further information.	350PCS-SM□OMEGAX ◆	—	44	Image recognition dispensing system 350PC Smart SM□ΩX	—
		—	45	Grease JET dispensing system GREASE JET	—
		—	20	Custom-made nozzle	—
		—	20	Nozzles with stoppers	—
		—	21	Slit nozzle	—
		—	45	Screw tightening robot	—
		—	21	Multi nozzle MN10-□G-□L-□P [standard]	—
		—	21	Multi nozzle MN13-□G-□L-□P [standard]	—
		—	21	Multi nozzle MN15-□G-□L-□P [standard]	—
		—	21	Multi nozzle MN17-□G-□L-□P [standard]	—
		—	21	Multi nozzle MN19-□G-□L-□P [standard]	—
		—	21	Multi nozzle MN21-□G-□L-□P [standard]	—
		—	21	Multi nozzle MN23-□G-□L-□P [standard]	—
		—	21	Multi nozzle MN25-□G-□L-□P [standard]	—
	—	21	Multi nozzle MN27-□G-□L-□P [standard]	—	
	—	45	Desktop dispensing robot for laser soldering DISPENSE LASER MASTER	—	

Models and product names have been partly changed and product codes have totally been abolished since December 2012. However, product specifications and shapes have not been changed.

* 1 Former models that had been classified by optional specifications were integrated into new models.

Note: 1. Select a product according to the volumes, shapes, and others shown in the bracket [] in the above table. The value of selected specifications shall be entered into the square mark □ of a model name.

2. Refer to the separate General Catalog or contact our sales department for further information about dispenser controllers and dispensing systems marked with ◆.

PROFILE

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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

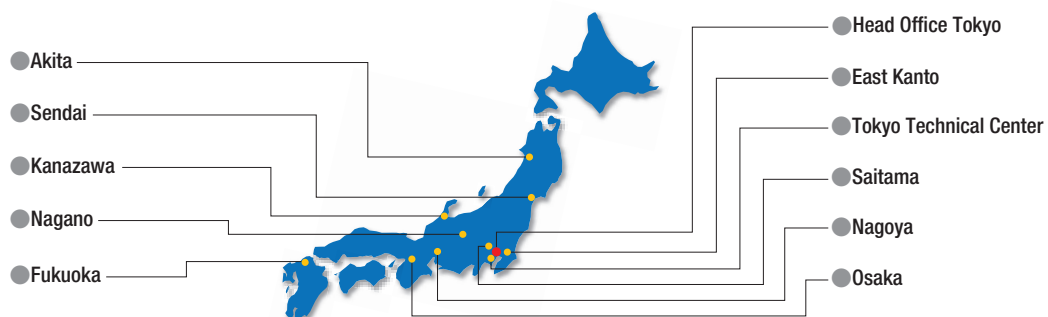
Domestic bases: 11 locations

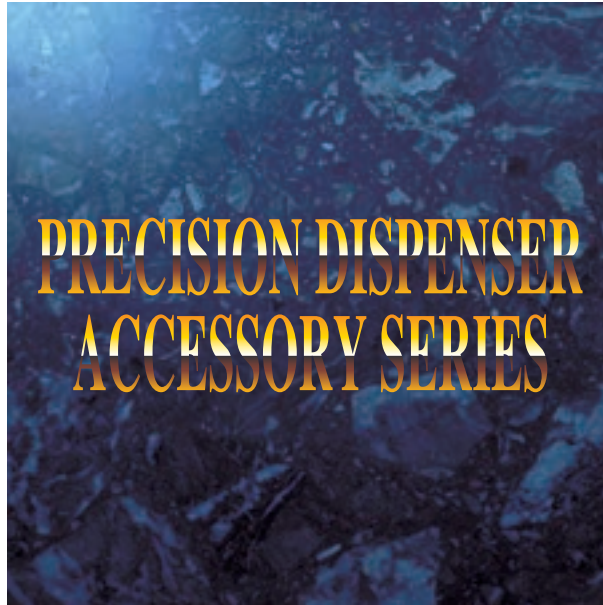
Foreign bases: 11 locations


WORLD



JAPAN





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

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