

High performance screw dispenser

# SCREW MASTER

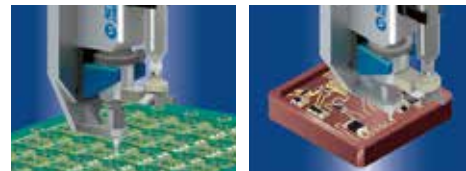
Compatible with Standard / Large flow rate / PUR hot melt *series*

**High-speed and Stable dispensing**  
of high viscosity particle-filled paste without clogging nozzle.



# High performance screw dispenser

High performance screw dispenser that supports solder paste, thermal grease, epoxy resin, PUR, etc, that require high-speed and precision dispensing. The unique screw mechanism eliminates volume inconsistency and fluid lumps, to enable steady and accurate micro dotting and drawing.



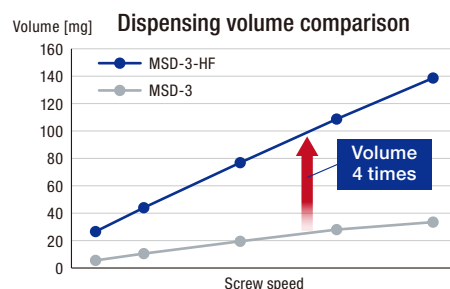
**New Product**

## SCREW MASTER 3-HF

High flow type

### High Flow & High Speed

- Dispensing speed "4 times" as fast as conventional methods.
- Achieves high tact / high precision dispensing.
- High durability rods are also available.
- Compatible with thermal interface material containing filler.



Material : Silicone oil (Viscosity 200,000 mPa · s)  
Dispensing time : 1 sec.

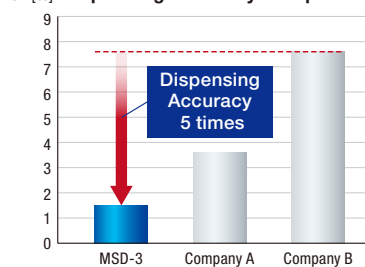
## SCREW MASTER 3

Standard type

**Minimum dot size  $\phi 0.15$  mm (Solder paste)**  
**Achieves overwhelming high-precision dispensing.**

- The unique screw mechanism eliminates volume inconsistency and fluid pools.
- Achieves micro dotting and superfine drawing of solder paste or fluid with filler.
- The optimum screw rod can be selected according to the fluids and application.
- Syringe and wetted parts can be easily replaced, greatly reducing downtime.

CV [%] Dispensing Accuracy Comparison



Material: Silicone oil (Viscosity 500,000 mPa·s)  
Dispensing volume : 10 mg  
Dispensing time : 1 sec



## HOT MELT SCREW MASTER

PUR hot melt compatible type

**Fine line and high-speed PUR hot melt dispensing!**

- Line width 0.1 mm ~
- Achieves 100 mm/s or faster dispensing speed
- High maintainability.
- Set temperature up to 160°C






Syringe type  
30 mL



Cartridge type 300 mL

## Product lineup & quick reference table

			<b>SCREW MASTER series</b>				
Head			 <b>SCREW MASTER 3-HF</b>		 <b>SCREW MASTER 3</b>		 <b>HOT MELT SCREW MASTER</b>
Flow rate			High flow		Standard		Standard
Rod type			Standard	High durability	Standard	High durability	Standard
Corresponding fluid	Radiation	Thermal grease		◎		○	
	Fixation	RTV	◎		○		
		Hot melt					◎
	Sealing	CIPG/FIPG	◎		○		
		PUR					◎
Conduction	Solder paste	○		◎			

## Common controller

Common controller that can drive each head of **SCREW MASTER** series

Equipped with various functions for various application scenes.

Drip during standby time is resolved by the dedicated suck-back program.  
(Please contact our sales.)

### Recommended convenient functions

- **“Suckback function”** to prevent liquid dripping
- **“Auto increment function”** that automatically switches the registered dispensing parameters
- **“Synchro Speed function”** that automatically adjusts the drawing line width in cooperation with our robots



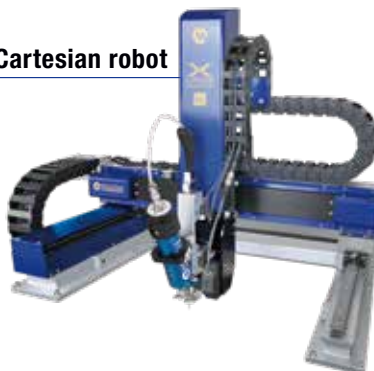
## System lineup

Desktop robot



SHOT mini/SHOTMASTER  
×  
**SCREW MASTER series**

Cartesian robot



XCROSS MASTER  
×  
**SCREW MASTER series**

Fully automatic machine



DISPENSMASTER FAD  
×  
**SCREW MASTER series**

## Specifications

### <Dispense head>

Product name	High performance screw dispenser SCREW MASTER3			
Model	MSD-3-2SE-HF [For Cartridge]	MSD-3-2SE-SET1 [For Syringe]	MSD-3-2SE-SET2 [For Syringe with temp control]	MSD-3-2SE-SET3 [For Cartridge]
Dispensing method	Screw type			
Main functions	High-speed dispensing of high viscosity pastes, particle-filled pastes, and so on.			
Allowable fluid feed pressure	Max. 0.500 MPa			
External dimensions (excluding protrusion)	W37×D79× H233.5 mm	W37×D85× H230.5 mm	W37×D100×H230.5 mm	
Weight	1.3 kg	1.1 kg		
	Excluding screw rods, liquid materials, and liquid material containers.			
Applicable liquid materials	Thermal Grease	Solder paste, epoxy resin, grease etc.		Thermal Grease
Applicable material viscosity	50,000 to 500,000 mPa·s (reference)			
Applicable nozzles	Slit nozzle *1	Standard nozzle (nozzle nut type)		Slit nozzle *1
Liquid feeding method	Syringe, barrel cartridge, sealant cartridge, tube cartridge	Syringe, Tank *2	Syringe	Barrel cartridge, sealant cartridge, tube cartridge
Compliance standards	EU RoHS2			

\*1 Slit nozzle ≤0.5 kg

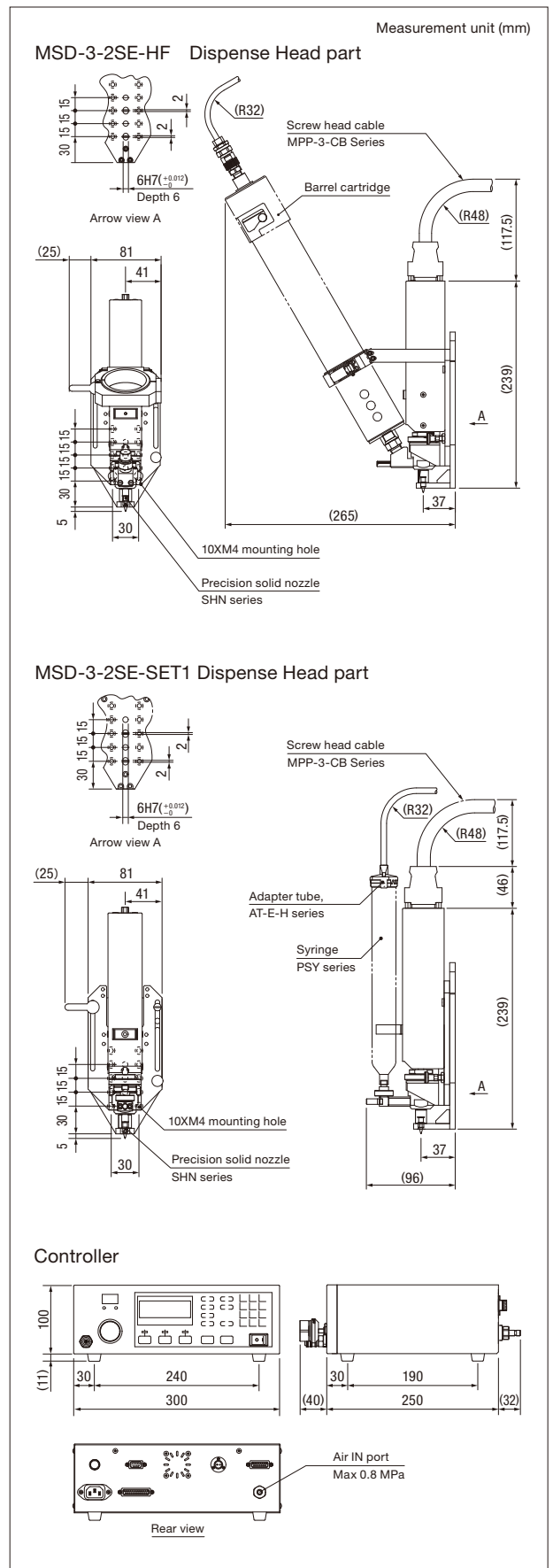
\*2 Connection is required via valves, etc. Please contact our sales.

### <Dispense controller>

Model	MSD-3-2SE-CTR
Control system	Microcomputer digital control system
Display	20 character x 4 line LCD
Fluid feed pressure setting range	0.010 to 0.700 MPa (Set according to the allowable pressure of the device to be connected or the material container)
Fluid feed pressure display	4-digit LED digital display
Source pressure	Max. 0.800 MPa (Recommended supply pressure: Liquid supply pressure +0.100 MPa or higher)
Dispensing mode	Timed / Manual
Dispensing time setting range	0.01 to 999.999 s
Screw rotation speed setting range	1 to 1,500 rpm
Channel number	400 CH
External input signal	Dispensing input, Setup input, Vacuum input, Dispensing mode switching input, Error reset input, Channel switching input, ENABLE signal (D-sub25 pin: Photocoupler input DC24V 5 mA)
External output signal *1	Busy output, Dispensing output, Dispensing completion output, Setup output, Vacuum operation output, Auto-increment completion output, Error output, Power-on output (D-sub25 pin: Photocoupler open collector output DC24V 10 mA or less)
Other functions	Suck back, Vacuum, Multi-preset, Auto-increment, Synchro speed, RS-232C communication, J/E display switch, Address in function, I/O variable function
Usage environment (for indoor use only)	Temperature range: 15 to 35°C, Humidity range: 25 to 27°C (No condensation), Altitude: 2,000 m or less
Storage environment	Temperature range: 1 to 60°C, Humidity range: 25 to 85% (No condensation)
Applicable fuse	250V T2.0A (Time-lag fuse type φ5)
Rated power supply and frequency	100 to 240 VAC (50/60 Hz)
Rated voltage allowable fluctuation range	Within ±10% of the rated voltage
Power consumption	55 W
Overvoltage category	Category II
External dimensions (excluding protrusion)	W300×D250×H100mm
Weight	5.2 kg
Compatible standards	CE-marking (LVD, EMC), EU RoHS2

\*1 The dispensing output switches with the dispensing completion output.

## External dimensions



#### Safety precautions

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

\*These specifications are subject to change without any notice.

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