## MUSASH

# Accessories for dropping and multi-channel dispensing

#### Precision solid nozzles and special nozzles





· Customization available for a wide variety of shapes required for dropping and multi-channel dispensing

Valves · Ideal valves for micro volume

- dispensing of low viscosity fluid. · Succeeded in dispensing micro volume of even corrosive fluid due to Teflon
- used at all connecting portions. · The stroke adjustable type is also available. (DCV-2N, DCV-3N)



• 0.5- to 30-liter types available.

Tank (SUS made)

















#### http://www.musashi-engineering.co.jp/english/

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#### HEAD OFFICE

s strictly p

8-7-4, Shimorenjaku, Mitaka, Tokyo, 181-0013, Japan TEL : (81)422-76-7111 / FAX : (81)422-76-7122 BRANCH

• High-speed processing achieved by 12 units of SMP-III, which has

microscopic volume dispensing

provides sequential operations

with multi-channel head

· Fully automatic system that

established excellent track record in

MUSASHI ENGINEERING, INC. TOKYO OSAKA NAGOYA SENDAL FUKUOKA SAITAMA NAGANO FAST-KANTO AKITA

HONG KONG LTD.

SHANG HAI LTD.

SHENZHEN BRANCH

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MUSASHI ENGINEERING KOREA., LTD.	902 No. 9 F. #C, Korea Bio Park. 694-1 Sampyeong-dong. Bundang-gu, Seongnam-si, Gyeonggi-do 463-400 , Korea TEL : (82)31-702-3811 / FAX : (82)31-702-3881
TAIWAN BRANCH	8F-2, No. 158, Sec. 2, Gongdao 5th Road, Hsinchu, Taiwan 30070 TEL : (886)3-572-9200 / FAX : (886)3-572-9300

Fully automatic chemical injection system

Fully automatic system with well transporter and pumps for 12-head precision dispensing



Safety precaution Make sure to read the



Function" equipped, dispensed shape's micro-plate feeding, chemical picture displayable in advance. injection, and discharging



INC. is certifie rding to 

CAT.No.LABORATORY-07143-E-3

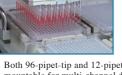


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Fully automatization of pipet tip mounting, chemical suction, multi-channel dispensing, and pipet tip removal





 Both 96-pipet-tip and 12-pipet-tip heads mountable for multi-channel dispensing. Automatic attachable pipet tip. Stacker (option) mountable. User-friendly design with excellent operability.

## IMAGE MASTER® 350pc Smart





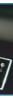
ENGINEERING, INC

World Leading Dispense

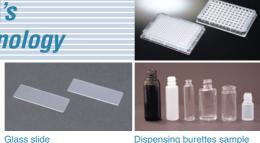
We reserve the right to change the specifications without notice All copyrights are retained by MUSASHI ENGINEERING.Reprinting, reproducing, and/or transmitting as electronic data in whole or in part these material without prior written perm tion manual before you use the unit, for your safety



## MUSASH fluid precision control technology



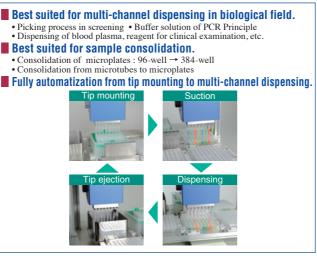
# MUSASH Best suited for inspection kit, MUSASHI's micro-volume liquid precise control technology



Fully PC-controlled compact type multi-channel dispensing system PIPET MASTER®

## Processing capacity increased with Multiple channel head!





## Spotting system for biochip manufacturing SPOT MASTER<sup>®</sup>

Automation of multiple kinds of reagents dispensing!



Best suited for multiple kinds of reagents spotting thanks to Automatic Nozzle Cleaning function

Easily configurable! Flexibly potting pattern editing thanks to dedicated software



is spotting of various kind of lig

Antibody spotting system JET SPOTTER®

#### Suction & High-speed-spotting multiple kinds of antibody Stable high-speed dispensing available regardless of Non-contact type dispensing surface shape. NEW dispensing head Most suitable for spotting a large variety of reagent by nozzle automatic cleaning function Running cost is low Applicable to various dispensing objects and many different types of micro-plates **Dispensing volume :** 30 to 2000nL New feature Nozzle automatic cleaning function

# MUSASH

## Evolving Dispensing solutions! MUSASHI's high-precision/High-speed Dispensing/Spotting/Filling system MUSASHI's systems achieving high-throughput screening in drug-discovery & other biological fields

## Next generation standard desk-top robot SHOTMASTER® 300DS-s

#### Desktop robot usable for inspection kit production



High rigidity and no loss of synchronism chieved thanks to original driving system

- High dispensing accuracy achieved based
- on leading-edge technology owned by No.1 dispenser manufacturer High precision drawing without unsteadiness.
- thanks to the excellence in straightness

#### Specifications

	Series name Number of axes controlled		SM300DS-s
			3-axis
	Travel	X, Y-axis	300mm
	ranges	Z-axis	60mm
	Repetitive	X, Y-axis	±0.005mm
	positioning accuracy	Z-axis	±0.002mm
	Transportable weight		Work base side: 10kg Head side: 6kg
	Power supply/ power consumption External dimensions Weight		AC100 to 240V 50/60Hz • 150VA
			W482×D630.4×H562.7mm
			<b>32</b> kg
	pattern, g factors.	ravity cen es for the	depending on the speed, motion ter of the loaded object, or other Y-axis are the weights at the mounted

Dropping system for microscopic and constant volume NANO MASTER®

#### Capability of 1 nl microscopic volume dropping



### High-precision micro and constant volume filling pump FILL MASTER

For pre-processing of HPLC, Volume measuring type high-precision

- proved productivity with multi-head availability · Direct value entry for setting filling volume User-friendly operability and high repeatability .
  Adjustable suction speed and filling speed to prevent bubble



Specifications			
Model FILL MASTER			
Control	Microprocessor-controlled plunger type		
Dispensing volume range	10ml or less		
Applicable fluid materials	Especially suited for low viscosity fluids and solvents		
Memory	400CH		
Power supply, power consumption	AC 100V 50/60Hz • 75VA		

## Automatic multi-function multi-channel dispensing system supporting micro-plates and vials

## MICRO MASTER®

#### High-precision multi-channel dispensing achieved by **MUSASHI** original plunger pump



- Capable of dispensing high-viscosity fluids that are difficult-to-use with
- pipets. Value entry with ease for setting multi-channel dispensing volum Fluid bottle mountable without
- repacking.
- Fluid level detecting function for a fluid bottle to be mounted.



Specifications		
Model		MICROMASTER
Dispensing	Control	Microprocessor-controlled plunger type
control	Dispensing volume range	1µl or more
0001011	Multi-preset	400CH (0 to 399)
Specified temperature range		-10°C to 40°C
Power supply, power consumption		AC 100V 50/60Hz • 180VA
External dimensions		W 560 X D 730 X H 660mm
Weight		60kg

#### Low viscosity Non-contact jet dispenser <u>Cyber</u> Jet®2

#### Immunochromatography method supported Best suited for line dispensing of antibody

- High-speed jet of low viscosity liquid at 133 dps.
- High maintainability achieved Excellent quiet operation.
- Improvement of continuous dispensing stability Temperature control mechanism equipped as

#### Specifications

Model	MJET-C-HU -R/L	
Dispensing method	Jet type	
Dispensable liquid materials	Reagent, antibody, etc.	
Applicable range for liquid material viscosity	1 to 2000mPa · s	
	Pipe type (1L, 2L, 3L): 15 to 32G	
Use nozzle	Pipe type (1L, 2L, 3L): 15 to 28G PTFE coating	
	All-in-one design (SHN): 28 to 36G	
Supply air pressure	Max. 0.6MPa	

### Tubing pump **MT-410**

#### Tubing pumpSimplified high-precision fluid feeding with excellent operability

- Tube placement with one-touch simple and secured operation.
  Installation of "Digital Timer" with one-touch operation for time
- nce fulfilled due to the introduction of detachable
- rotor equipped with the remote switch for manual work

#### . . .

Dispensing pen available.	

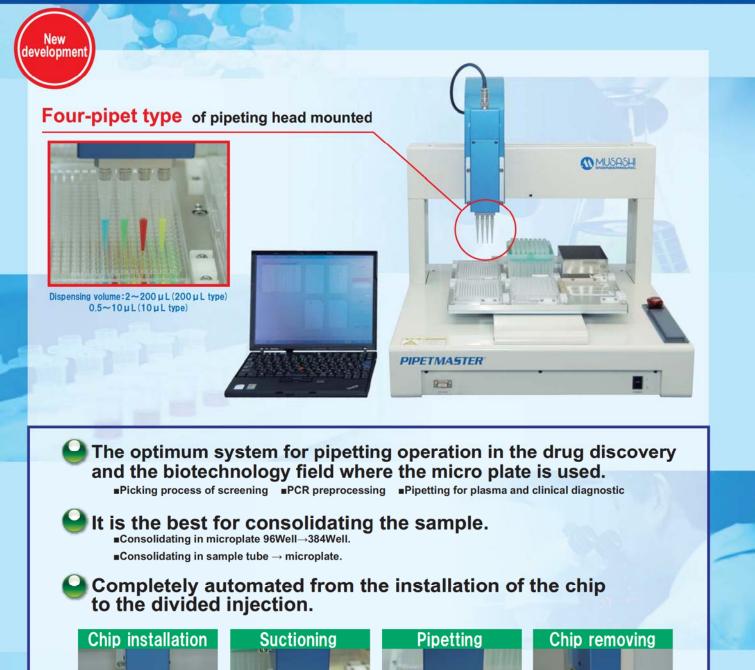
Specifications		
Model	MT-410	
Control Rotary tubing type		
Dispensing duration Digital timer (digital switch)		
Special feature	Vacuum rotary function for fluid-drip prevention	
External input signal	Contact input	
Power supply, power consumption AC 100V 50/60Hz • 32W		
External dimensions and weight W 188 X D 189 X H 75mm • 3.4kg		



Complete PC control compact pipetting system

## Four-pipet type **PIPET MASTER®**

## It is the best for consolidating the sample! Four times faster for processing performance times with four-pipet type







# Complete data making of pipetting information. Compact pipetting system debut.



## The optimum system for pipetting operation in the drug discovery and the biotechnology field where the micro plate is used.

Picking process of screening

PCR preprocessing

Pipetting for plasma and clinical diagnostic

## Feature

- Product configuration of four types.
   The best combination can be selected from base robot "200mm stroke" or "300mm stroke" and pipet "Precise pipet" or "Mass pipet" according to the usage and the purpose.
- Corresponds to the many kinds of plates and .
   In addition, a special stage in various sample tubes is available.
- Pipetting conditions such as amount of pipetting, the stir operation before sucking and after dispensing can be set freely.
- Free arrangement of Mother plate (MP) and Daughter plate (DP).



PHOTO: PIPETMASTER-200S.

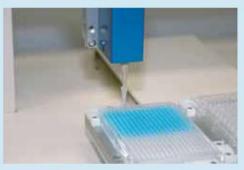
#### Example of application

Mother plate (MP) and Daughter plate (DP) arrangement, pipet well, amount of pipetting, ON/OFF and cycle of stiring operation befor sucking and after dispensing are freely set on PC soft before pipetting.

The robot automatically does all processes from the installation of pipetting chip to abandonment after the parameter is input.



① The chip is installed.



(2) The reagent is sucked.



③ Pipette the reagent.

④ The chip is detached.

- PIPETMASTER-200S or PIPETMASTER-300S are selected according to the number of plates used.
- Corresponds to many kinds commercial plates (96 well and 384 well) and various kinds chips.
- Chip  $(10\mu \ell, 200\mu \ell)$  is selected according to the amount of pipetting.
- The arrangement of Mother plate (MP) and Daughter plate (DP) can be set freely.

#### Specification

Model	PIPETMASTER-200S	PIPETMASTER-300S
Pipetting method	Pipet method	Pipet method
Pipetting capacity	$1 \sim 200 \mu \ell$ (200 μl specification)	1~200µl (200µl specification)
	$0.5 \sim 10$ μℓ (10μℓ specification)	$0.5 \sim 10 \mu \ell$ (10 $\mu \ell$ specification)
Chip installation	Automatic operation	Automatic operation
Chip detachment	Automatic operation	Automatic operation
Robot stroke speed	XY 0.1 ~ 800mm/sec	XY 0.1 ~ 800mm/sec
	Z 0.1 ~ 250mm/sec	Z 0.1 ~ 400mm/sec
Number of plates	Two pieces	Four pieces
Power supply and power consumption	AC100~240V 50/60Hz • 120VA	AC100~240V 50/60Hz • 200VA
Outside dimension *projenction excluded	W304mm×D391mm×H422mm	W480mm×D585mm×H510mm
WT	17kg	40kg

\*The product specification is subject to change without notice.

## MUSASHI Engineering,inc.

#### http://www.musashi-engineering.co.jp/

世界のディスペンサー 武蔵エンジニアリング株式会社

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IAILAND BRANCH	35/1 Soi Pipat 2 Convent Rd Bangrak Bangkok 10500 Thailand TEL : (66)847347851	
	CAT.No.SC10709-E-COPY	



Spotting system for biochip manufacturing

SPOT MASTER®

# Automated spreading of wide ranging reagents!





Reagent spotting sysytem supporting microarray



Non-contact type super-high speed jet dispensing a large variety of reagent.





自動多機能分注システム

MICROMASTER®

Automatic multi-function multi-channel dispensing system

# マイクロプレート、バイアル対応 自動分注システム

Automatic multi-channel dispensing system supporting microplates and vials





高精度・高速処理を追求したオリジナル プランジャポンプを搭載。 Original plunger pump with high level of precision and fast performance equipped

## 特

- ●ピペットでは困難な高粘度薬液の精密分注を実現。
- ●目的の分注量は数値入力による簡単設定。 最大400chのメモリ機能を装備。
- ●96穴、384穴マイクロプレート、各種バ イアルに対応。
- ●薬液ボトルを直接容器として使用可能。
- ●薬液ボトル用残量検知機能を装備。

## **FEATURES**

- •Multi-channel dispensing of high-viscosity fluid with precision that cannot be handled with pipets
- •Value entry with ease for setting multi-channel dispensing volume
- Up to 400-channel memories available
- •Supporting 96-well & 384-well microplates and various vials
- •Fluid bottle mountable without repacking
- •Fluid level detecting function for a fluid bottle to be mounted

## MUSASHIのディスペンスノウハウをオールインワン。

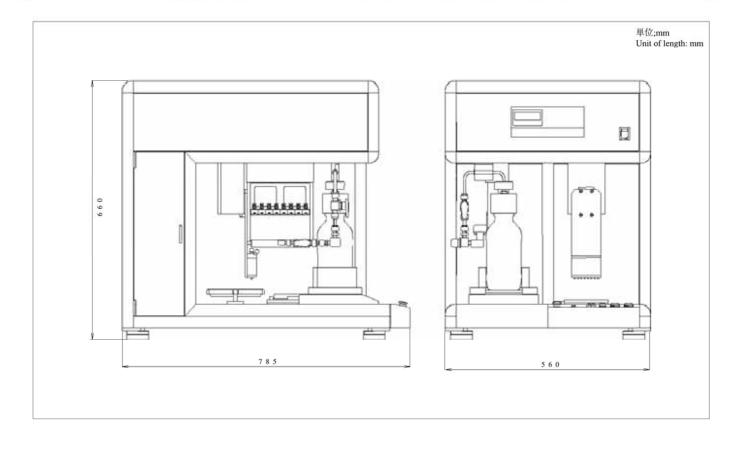
MUSASHI's all dispensing know-how is applied in this system.

#### 様 SPECIFICATIONS 仕

型式		MICRO MASTER
ディスペンス	制御方式	マイコンデジタル制御プランジャ方式
制御部	分注量範囲	1 <i>µ</i> I∼
	マルチプリセット	400ch(0~399)
仕様温度範囲		-10°C~40°C
電源·消費電力		AC100V 50/60Hz • 180VA
外形寸法		W560×D785×H660mm
質量		60kg

Model		MICRO MASTER	
Dispensing	Control	Microprocessor-controlled plunger type	
control	Dispensing volume	1 µl. or more	
section	Multi-preset	400channels (0-399)	
Operational temperature range		-10-40°C	
Power source, power consumption		100V AC, 50/60 Hz, 180 VA	
Outside dimensions (W×D×H)		560×785×660 (mm)	
Weight		60kg	

#### 外形寸法図 EXTERNAL DIMENSION DRAWINGS







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※本仕様は、おことわりなく変更する場合があります。

The specifications of the system may change without notice.

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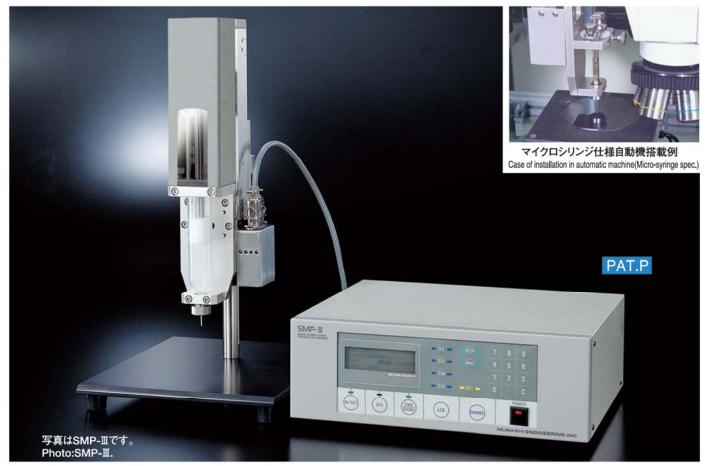
URL http://www.musashi-engineering.co.jp/



超微量定量ディスペンサー NAND MASTER<sup>®</sup> SMP<sup>®</sup>-II/SMP<sup>®</sup>-II

# 1nlの超微量吐出<sup>\*</sup>

溶剤・揮発性材料などの超微量塗布、精密分注、定量充填に威力



ヘッド部カバー、スタンドはオプションです。 / Head cover and stand are optional extras.

## **1ne SUPER-MICRO-VOLUME LIQUID DISPENSING\***

Useful for dispensing extremely small doses of solvents and volatile materials

## 特長

●デジタル制御と計量方法による高安定吐出を実現。

- ●独自のプランジャ機構とサックバック機能により 液ダレを解消。
- ●マイクロシリンジを搭載(オプション)、少量の液剤を 効率よく使用可能。
- ●1/10,000mlの微量吐出、姉妹機 SMP-IIも ラインナップ\*。

#### FEATURES

- High stable dispensing achieved thanks to digital control and volumetric method.
- No liquid dripping thanks to original plunger mechanism and suckback function.
- Micro-syringe applicable, accordingly high capability achieved to dispense small volume of liquid with efficiency.
- A sister machine, 1/10,000ml Micro volume liquid dispenser, the SMP-II, is also available<sup>\*</sup>.

\* This value can be achieved by using an optional syringe.

\*オプション搭載時。

### 適用製品 APPLICABLE PRODUCTS

LSI、IC、ハイブリッドIC、トランジスタ、ダイオード、カラーLCD、プリント基板などの半導体・ 液晶基板・電子部品。時計、カメラ、光学機器などの精密機械。医療品、食料品など。

Semiconductors and LCD substrates such as LSIs, ICs, Hybrid ICs, transistors, diodes, color LCDs and printed circuit boards. Precision equipment such as watches, cameras and optical instruments. Medical items, foodstuffs.

#### 適用吐出材料 APPLICABLE DISPENSING MATERIALS

特に、低粘度液体材料に最適。アルコール、揮発性液剤、UV硬化型樹脂など。

Ideal for low viscosity liquid such as alcohol, volatile liquid, UV resin, etc.

#### 用 涂 APPLICATIONS

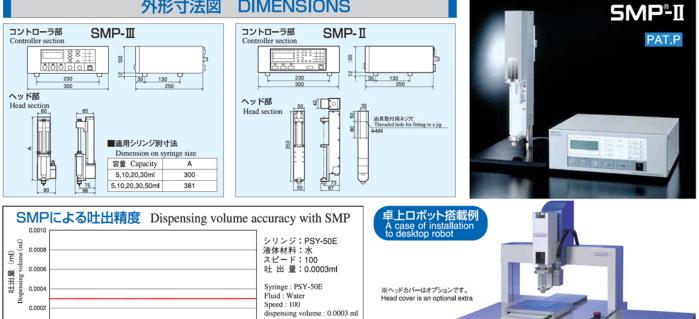
微量充填、微量分注、点付塗布、線引塗布、接着、ポッティング、など。

Micro-volume filling, small volume dispensing, dotting, lining, dispensing adhesives, potting, etc.

#### SPECIFICATIONS 仕 様

型式/model		SMP-II	SMP-I
制御方式/Control system		マイコンデジタル制御プランジャ方式 吐出スピードコントロール機構 Micro processor-controlled plunger system with dispensing speed control mechanism	
吐出量設定範囲/	最小值/Min.	0.000004ml(5mlシリンジ搭載時/at fitting 5ml syringe) 0.000001ml(マイクロシリンジ搭載時/at fitting micro-syringe)	0.0003ml
Dose volume setting range	最大值/Max.	9.999999ml	9.9999ml
適用液体材料/Applicable liquid types		特に低粘度液体材料、溶剤タイプ材料に最適/Specially optimized for low viscosity liquid	
搭載シリンジ/Equipment syringe		PSY-Eシリーズ/PSY-E series 5ml~50ml オプション:マイクロシリンジ仕様/Option:Micro-syringe	PSY-Eシリーズ/PSY-E series 5ml~50ml
メモリー機能/Memory function		400CH/400 channels	
電源·消費電力/Power supply · Power consumption		AC100V~240V 50/60Hz · 45W	AC100VV 50/60Hz · 50W
ヘッド部/Head section 重量/Weight		2.3kg (5~30ml用/equipment 5-30ml syrige) 2.8kg (5~50ml用/equipment 5-50ml syrige)	1.8kg
コントローラ部/Controller section		4.2kg	4.3kg

#### 外形寸法図 DIMENSIONS



※本仕様は、おことわりなく変更する場合があります。 安全に関するご注意 Safety precaution The specifications of the system may change without notice. 正しく安全にお使いいただくため、ご使用の前に 必ず「取扱説明書」をよくお読み下さい。 Make sure to read the instruction manual before you use the unit, for your safety. ※本カタログは、当社の著作物です。掲載されている写真・図・その他の情報を、

40 45

30 35 吐出回数(回) Count of dispensing 50



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本社地区工場は環境	(_14001_)	ł
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 $(\mathbb{C})$ 

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