Something Different.
WATSON BIO LAB
MADE IN JAPAN SINCE 1988

Sales agency

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Manufacturer: FUKAEKASEI CO., LTD.

*Please see a guarantee card also packaged in the box for information for local sales distributors.

2025.10_NEXTY-S_single_EN-ver1.2_DL

NEXTY-S

Single Channel Pipette

Instruction Manual ver.1.2

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Thank you very much for purchasing NEXTY-S pipette.
Please read this instruction manual carefully for proper usage before actual use.

Introduction:

NEXTY-S series lineup 7 variable-volume models and you can choose the most suitable model from the volume range of 0.2～5,000μL.

⚠ Safety Instruction and Preventive Action

- Attach a tip on the pipette before use.
- Do not pipette sample or any substances into the pipette's body.
- Do not lay the pipette while holding sample in the tip to avoid contamination.
- Read pertinent instructions and pay extra caution when handling substances that may be harmful to human health such as biohazardous substances, radioactive substances or toxic substances.
- Check the resistance ability of the tip (Polypropylene), when using organic solvent or highly reactive substances.
- Pay extra attention to the volume of a sample when using a substance that has different physical property from H2O, or high volatility.
- Keep the pipette, tips and samples at the same temperature for precise volume pipetting.
- Do not use acetone or other highly reactive solvent for cleaning the pipette.
- Use WATSON brand tips for accurate pipetting.
- There is a danger of the body being damaged by applying load or giving impact.

2. Technical Data

Model	Button Color	min. scale	Volume	Accuracy µL	Accuracy %	Precision S.D.µL	Precision CV%
NEXTY-S2 0.2～2µL	Orange	0.001µL	0.2µL	±0.03	±15	≤0.016	≤8.0
			2µL	±0.05	±2.5	≤0.02	≤1.0
NEXTY-S10 1～10µL	Pink	0.01µL	1µL	±0.05	±5.0	≤0.025	≤2.5
			10µL	±0.10	±1.0	≤0.05	≤0.5
NEXTY-S20 2～20µL	Beige	0.01µL	2µL	±0.12	±6.0	≤0.06	≤3.0
			20µL	±0.20	±1.0	≤0.10	≤0.5
NEXTY-S100 10～100µL	Green	0.1µL	10µL	±0.20	±2.0	≤0.10	≤1.0
			100µL	±0.80	±0.8	≤0.30	≤0.3
NEXTY-S200 20～200µL	Yellow	0.1µL	20µL	±0.40	±2.0	≤0.20	≤1.0
			200µL	±1.60	±0.8	≤0.60	≤0.3
NEXTY-S1000 100～1000µL	Blue	1µL	100µL	±2.00	±2.0	≤0.60	≤0.6
			1000µL	±8.00	±0.8	≤3.00	≤0.3
NEXTY-S5000 500～5000µL	Purple	5µL	500µL	±10.0	±2.0	≤3.00	≤0.6
			5000µL	±40.0	±0.8	≤15.0	≤0.3

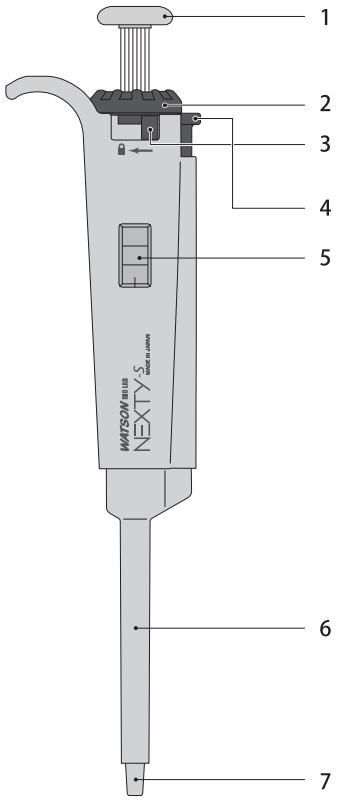
Conditions

- WATSON BRAND tips are used.
- Measurement：At max. & min. volume capacity.
- Sample & the ambient：Purified water is used、20～25℃, humidity: Rh50%≤
- Equipment：Gravimetric method by microbalance.

3. The Outline

NEXTY-S is a variable volume micro-pipette applied with a air-cushion plunger stroke system.

Dwg.1 Description & Name



1. Push Button

Push this button to aspirate, discharge and set the volume of samples to be aspirated. The 1st stroke until the 1st stop is to aspirate the set volume of sample. The last stroke till the end (2nd stop) is to discharge the sample. The sample volume to be aspirated can be set by revolving this button which is directly connected to the plunger.

* When you set capacity, please confirm that 3 lock levers is removed. Parts might be damaged when you turn it with locking.

2. Turbo Dial

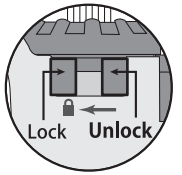
1 revolution of this button works as 3.5 revolutions of the push button.

This button is useful when making a big volume change.

* When you set capacity, please confirm that 3 lock levers is removed. Parts might be damaged when you turn it with locking.

3. Lock Lever

This lever is to lock the dial to prevent the set volume from changing while using the pipette.



4. Eject Button

This button is to eject the tip.

5. Volume Window

This window shows the volume set by the dial.

6. Eject Cone

This eject cone is connected with the eject button and pushes down a tip for ejection.

7. Nozzle Cone

A tip is attached on this nozzle cone.

4. Operation

4.1. To set the volume

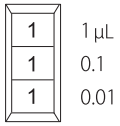
The sample volume to be aspirated can be changed continuously by revolving Push Button (Dwg.1-1) or Turbo Dial (Dwg.1-2) (Shaft positioning system allows the volume to be set in the min. unit. The minimum unit is 1/1,000 of the max. volume capacity.).

* When you turn Push Button or Turbo Dial, please confirm that Lock Levers(Dwg.1-3) is removed. Parts might be damaged when you turn it with locking.

4.2 Volume indication (Example of each pipette)

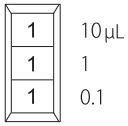
3 digits on the volume window read from the top to bottom.

NEXTY-S2



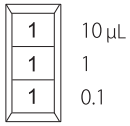
1 µL
0.1
0.01

NEXTY-S10



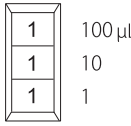
10 µL
1
0.1

NEXTY-S20



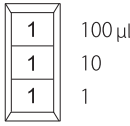
10 µL
1
0.1

NEXTY-S100



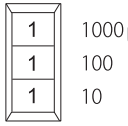
100 µL
10
1

NEXTY-S200



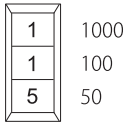
100 µL
10
1

NEXTY-S1000



1000 µL
100
10

NEXTY-S5000



1000 µL
100
50

4.3. Tip

Make sure a tip is attached on the pipette before use.

4.4. To aspirate

- Attach a tip suitable for the pipette.
- Press the Push Button slowly to the 1st stop (aspiration stroke).
- Dip the top of the tip by about 3mm below the surface of the sample liquid.
- Return the Push Button slowly (Make sure the tip is immersed in the liquid.)
- Withdraw the tip out of the liquid slowly.

4.5. To discharge the sample

- Hold the pipette so that the top of the tip diagonally and lightly touches the inner wall of the recipient vessel.
- Press the Push Button slowly to the 1st stop (aspiration stroke) and keep this button's position until the discharge is done.
- Press the Push Button to the 2nd stop (blow-out stroke) to complete the discharge.
- Withdraw the tip along the inner wall of the recipient vessel while keeping the Push Button pressed fully down.
- Release the Push Button slowly to the original position.
- Eject the tip by pushing the Eject Button.

4.6. For better pipetting precision

For better pipetting precision, it is recommended to conduct pre-wetting after a new tip is attached where aspirate and discharge are repeated 2-3 times using the actual sample.
Make sure blow-out is conducted after the pre-wetting and the sample inside the tip is completely discharged.

Pre-wetting is for:

- Balance pressures of the whole system including tips, pipette, and samples.
- Balance temperatures of tips, pipette, and samples.
- Particular liquids such as serum, surfactant etc. that are easy to wet the tip's material may form a film on the inner wall of the tip. This may cause the discharged sample volume to be reduced. Pre-wetting prevents the reduction of the discharged sample.

5. In case accurate calibration of the pipette is required.

Please ask your sales distributor for the calibration as it requires perfectly conditioned room, measurement equipments and techniques based on experience.
We will restore the pipette to the pre-shipment condition and ship it back to you.

6. Cleaning and Sterilization

6.1. Cleaning

Clean the pipette regularly with household or laboratory cleaning agents. It can also be sterilized by 60% isopropanol when it is necessary.

Wipe the pipette with a cloth wetted with distilled water and dry in the room temperature after cleaning and sterilization.

6.2. Sterilization

Lower components (Eject Cone and Nozzle Cone Only. Refer to the dwg. in chapter 3 "The Outline".) can be disassembled and autoclaved (121℃, 20mins.) . Dry the pipette after autoclaving in the room temperature. Reassemble the components for the next use only after the pipette's temperature completely cools down.

7. Troubleshooting

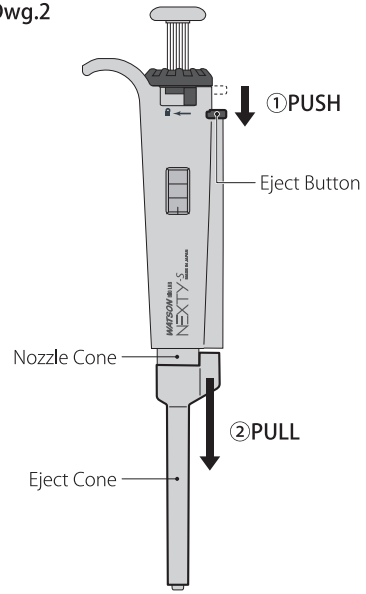
Trouble	Possible Cause	Solution
Liquid is left in the tip.	• The inner wall of the tip is dirty. • Water repellency of the tip is low.	• Replace the tip.
The liquid falls from the tip's top. The pipetted volume is low.	• Fitting of the tip is loose. • The sample's volatility is very high. • Pipetting too fast. • Withdraw the tip from the sample too quickly. • Air leaks due to dirt on the plunger. • Air leaks due to damage on the plunger. • Air leaks due to damage on O-ring. • Air leaks due to loose fitting of bottom parts.	• Attach the tip tightly. • Avoid using high volatility liquids. • Press the Push Button slowly. • Withdraw the tip slowly from the sample. • Clean the plunger and spread a small amount of grease. • Replace tha plunger and plunger seal and spread a small amount of grease. • Replace the O-ring and spread a small amount of grease. • Tighten the bottom parts by hands.
Push Button does not move smoothly.	• The plunger is dirty. • The plunger seal is dirty. • Organic solution or corrosive gas have been pipetted.	• Clean the plunger and spread a small amount of grease. • Replace the plunger seal and spread a small amount of grease. • Remove the bottom parts and ventilate inside to dry. Then clean each component and spread a small amount of grease on movable parts.
NEXTY does not aspirate samples.	• The sample has dried and blocks Nozzle Cone.	• Remove the bottom parts and clean with hot water. Then rinse them with distilled water, dry and spread a small amount of grease on the movable parts.

8. Maintenance

8.1. Remove and Setup

【Remove bottom parts】

Dwg.2



1. Remove the Eject Cone by pulling it out in the direction of No.1 while pressing the Eject Button in Dwg.2. For NEXTY-S5000, the Eject Cone is screwed on.

2. To remove the Nozzle Cone, turn it anticlockwise to unlock while holding the body tightly.

3. Remove the parts one by one.

Additional Notes:

- O-ring and Seal ring may come off when removing the Nozzle Cone.
- Make sure that washers are put on in the right direction.

【Reassemble the bottom parts】

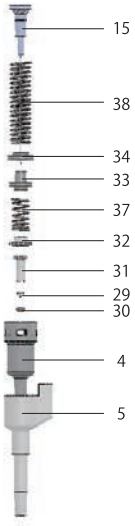
- Reassemble the bottom parts in the opposite order of removing

Additional Notes:

- Make sure the sliding parts are free from dust and spread grease slightly.
- Basically, set up with hand and avoid using tools which may damage the body.
- Make sure that washers must be put in the right direction while setup.

8.2. Maintenance Parts List

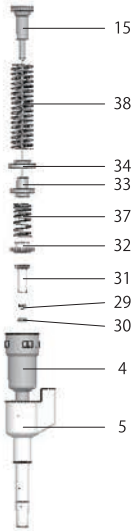
【NEXTY-S2】



■NEXTY-S2

No.	Name	Part Number
4	Nozzle Cone	A131M1
5	Eject Cone	A031M12
15	Plunger	182CM1
29	Plunger seal	330M1
30	O ring	341R1
31	Seal cone 1	380M123
32	Spring washer 1	390M1-6
33	Spring washer 2	402MA
34	Spring washer 3	412MA
37	Spring S1-790	S440RA
38	Spring S2-180	S450R1-5

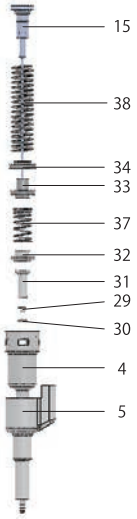
【NEXTY-S10】



■NEXTY-S10

No.	Name	Part Number
4	Nozzle Cone	A131M2
5	Eject Cone	A031M12
15	Plunger	182CM2
29	Plunger seal	330M2
30	O ring	341R2
31	Seal cone 1	380M123
32	Spring washer 1	390M1-6
33	Spring washer 2	402MA
34	Spring washer 3	412MA
37	Spring S1-790	S440RA
38	Spring S2-180	S450R1-5

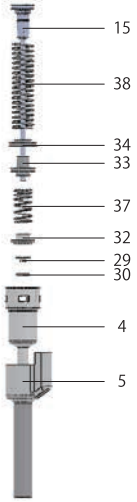
【NEXTY-S20】



■NEXTY-S20

No.	Name	Part Number
4	Nozzle Cone	A131M3
5	Eject Cone	A031M3
15	Plunger	182CM3
29	Plunger seal	330M3
30	O ring	341R3
31	Seal cone 1	380M123
32	Spring washer 1	390M1-6
33	Spring washer 2	402MA
34	Spring washer 3	412MA
37	Spring S1-790	S440RA
38	Spring S2-180	S450R1-5

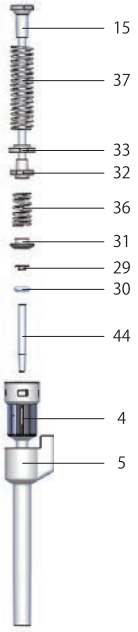
【NEXTY-S100】



■NEXTY-S100

No.	Name	Part Number
4	Nozzle Cone	A132M4
5	Eject Cone	A031M45
15	Plunger	182CM4
29	Plunger seal	330M4
30	O ring	341R4
32	Spring washer 1	390M1-6
33	Spring washer 2	402MA
34	Spring washer 3	412MA
37	Spring S1-790	S440RA
38	Spring S2-180	S450R1-5

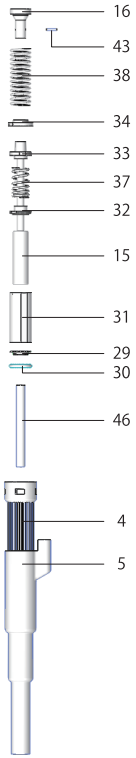
【NEXTY-S200】



■NEXTY-S200

No.	Name	Part Number
4	Nozzle Cone	A131M5-2
5	Eject Cone	A031M5-2
15	Plunger	182CM5
29	Plunger seal	S332M5
30	O ring	341R5
31	Spring washer 1	390M1-6
32	Spring washer 2	402MA
33	Spring washer 3	412MA
36	Spring S1-790	S440RA
37	Spring S2-180	S450R1-5
44	Nozzle inner	A131M5-2-1

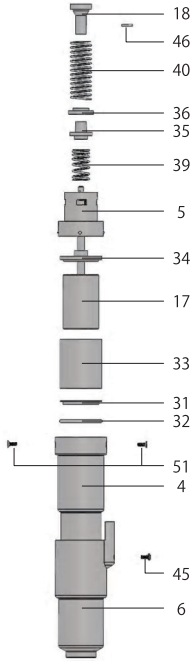
【NEXTY-S1000】



■NEXTY-S1000

No.	Name	Part Number
4	Nozzle Cone	A130M6-2
5	Eject Cone	A032M6-2
15	Plunger	610CM6
16	Plunger joint	532M67
29	Plunger seal	332M6
30	O ring	341R6
31	Seal cone 2	350M6
32	Spring washer 1	390M1-6
33	Spring washer 2	402MA
34	Spring washer 3	412MA
37	Spring S1-790	S440RA
38	Spring S2-200	S450R6
43	Knock pin	561R67
46	Nozzle inner	A130M6-2-1

【NEXTY-S5000】



■NEXTY-S5000

No.	Name	Part Number
4	Nozzle Cone	A134M7
5	Nozzle Cone joint	A142M7
6	Eject Cone	A031M7
17	Plunger	610CM7
18	Plunger joint	532M67
31	Plunger seal	332M7
32	O ring	341R7
33	Seal cone 3	361M7
34	Seal cone 4	371M7
35	Spring washer 2	402MA
36	Spring washer 3	412MA
39	Spring S1-790	S440RA
40	Spring S2-350	S450R7
45	Pan head screw	500R7
46	Knock pin	561R67
51	Tapping screw	590R7