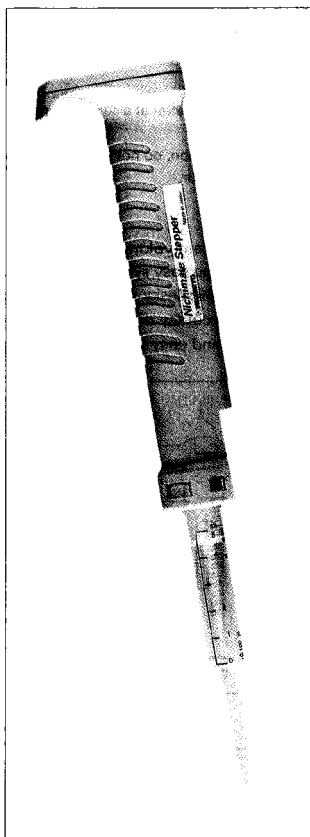




# Nichimate Stepper

Volume Adjustable Repetitive Pipetter



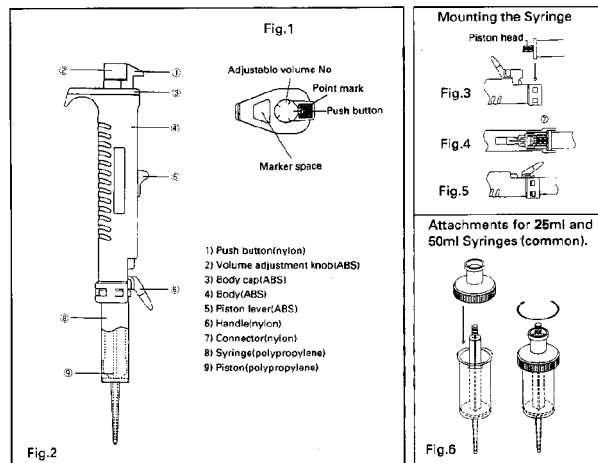
## CAUTION

To use this product safely and prevent it from damaging your body or your property, carefully read the following instructions and fully understand the features and operating procedures.

1. Operate the pipetter at a constant speed. Do not treat it roughly, otherwise, the liquid may splash.
2. During operation, do not bring your face close to the nozzle etc, otherwise, an accident may occur.

## FEATURES

- 40 different volumes of liquid can be dispensed.
- Quick and easy syringe replacement.
- Ergonomic design and thumb knob position, allows handling without fatigue.
- High accuracy dispensing is possible and reagent loss is minimised.
- Quick and easy volume adjustment via a 5 stage click stop mechanism.



## OPERATION

1. Push the piston lever down to its lowest position.
2. Select an appropriate syringe and mount it to the body.  
**Mounting the syringe:**  
 Push the piston until it hits the syringe bottom (This step is unnecessary if the piston already hits the bottom).  
 Raise the handle (Fig 3).  
 Firmly insert the syringe flange into the groove at the lower part of the body, where a piece of plate spring is secured. At the same time, insert the piston head into the connector(Fig3)(Fig 4). Tighten the handle and fix the piston head (Fig 5).  
 When using either 25ml or 50ml syringe, use an adaptor which is common to the 25ml and 50ml syringes(Fig 6).
3. By turning the volume adjustment knob, align the No which corresponds to the volume to be dispensed with the appropriate  $\Delta$  point on the push button. For selection of adjustable volume No, see the attached table of dispensing volumes. To ensure free movement of the syringe, the piston lever may be moved back and forth 2 or 3 times to a distance of approximately 1cm.
4. Put the nozzle of the syringe into the liquid to be dispensed and push up the piston lever as far as it can go, so that the syringe is filled with liquid.  
 To obtain better reproducibility, it is recommended to minimise the volume of air in the syringe. Let the syringe suck in the liquid slowly.
5. After suction, slowly withdraw the nozzle of the syringe from the liquid. This will ensure that liquid does not adhere to the nozzle surface. Should any liquid remain on the nozzle, wipe it off with a tissue paper before dispensing the liquid.
6. Place the nozzle or tip of the syringe so that it touches the inside wall of the receptacle and depress the thumb knob as far as it will go. The desired volume of liquid will be delivered into the receptacle. \*\*Do not use the first aliquot.
7. After finishing dispensing, the liquid remaining in the syringe can be ejected by pressing the piston lever down to the lowest level.  
 Replace the syringe after ejecting the liquid from the syringe.
8. Replace the syringe by reversing the syringe mounting sequence.

## PRECAUTIONS

1. Never disassemble the body.
2. Upon dispensing, do not use the first aliquot.
3. After suction of liquid, small air bubbles may occur around the piston. They, however, do not affect the dispensing accuracy.
4. Be sure to mount BMT- UT tips on the nozzle of the 0.05ml syringe.
5. When the body has been stained, wipe the stain out with adequate cleaning materials, such as neutral detergent. Never use inappropriate materials such as alcohol and thinner.

## DISPENSING VOLUMES AND MAXIMUM NUMBER OF DISPENSES

Syringe	No.	1	2	3	4	5
NS-V	0.05ml	1 $\mu$ l	2 $\mu$ l	3 $\mu$ l	4 $\mu$ l	5 $\mu$ l
NS-S	0.50ml	10 $\mu$ l	20 $\mu$ l	30 $\mu$ l	40 $\mu$ l	50 $\mu$ l
NS-M	1.25ml	25 $\mu$ l	50 $\mu$ l	75 $\mu$ l	100 $\mu$ l	125 $\mu$ l
NS-N	2.50ml	50 $\mu$ l	100 $\mu$ l	150 $\mu$ l	200 $\mu$ l	250 $\mu$ l
NS-L	5.00ml	100 $\mu$ l	200 $\mu$ l	300 $\mu$ l	400 $\mu$ l	500 $\mu$ l
NS-X	12.50ml	250 $\mu$ l	500 $\mu$ l	750 $\mu$ l	1000 $\mu$ l	1250 $\mu$ l
NS-Y	25.00ml	0.5ml	1.0ml	1.5ml	2.0ml	2.5ml
NS-Z	50.00ml	1.0ml	2.0ml	3.0ml	4.0ml	5.0ml
Maximum number of Dispenses		48	23	15	11	8

Note: 0.05ml syringe (NSV) requires the use of BMT-UT tips.

## ACCURACY AND PRECISION

Syringe	Volume	Accuracy	Precision
NS-V 0.05ml	1-5 $\mu$ l	< $\pm$ 5%	< 8.0% ~ < 3.0%
NS-S 0.50ml	10-50 $\mu$ l	< $\pm$ 1.5%	< 1.4% ~ < 0.6%
NS-M 1.25ml	25-125 $\mu$ l	< $\pm$ 1.2%	< 0.8% ~ < 0.5%
NS-N 2.50ml	50-250 $\mu$ l	< $\pm$ 0.7%	< 0.8% ~ < 0.3%
NS-L 5.00ml	100-500 $\mu$ l	< $\pm$ 0.5%	< 0.8% ~ < 0.3%
NS-X 12.50ml	250-1250 $\mu$ l	< $\pm$ 0.5%	< 0.8% ~ < 0.3%
NS-Y 25.00ml	0.5-2.5ml	< $\pm$ 0.3%	< 0.8% ~ < 0.3%
NS-Z 50.00ml	1.0-5.0ml	< $\pm$ 0.3%	< 0.8% ~ < 0.2%

Data on the 0.05ml syringe represents data obtained when using the BMT-UT tip. NB: The accuracy and precision of NS-V depends much on operator's skill.  
 Measurement condition: distilled water temperature 20 $^{\circ}$ C.

## ORDERING INFORMATION

Cat No	Description	Quantity	Cat No	Description	Quantity
NSTP	Main Body	1	NS-X	12.5ml syringe	100/box
NS-V	0.05ml syringe(with tips)	100/box	NS-Y	25ml syringe	50/box
NS-S	0.5ml syringe	100/box	NS-Z	50ml syringe	25/box
NS-M	1.25ml syringe	100/box	NS-ADP	Adaptor for 25.0/50.0ml	1
NS-N	2.5ml syringe	100/box	NS-STD	Stand to hold two dispensers	1
NS-L	5.0ml syringe	100/box			

Note: NS-YZ and NS-Z require use of NS-ADP adaptor.

1 each NS-ADP is included in NS-Y and NS-Z respectively. Syringes are disposable.

MANUFACTURER: © NICHIRYO CO., LTD.