

Instruction Manual

Plant Microtome **MTH-1**



Thank you for purchasing NK product.

Please read this instruction manual carefully for proper operation of the product, and keep it for your reference.

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Please read the warranty carefully and keep it at hand.

Make sure to keep this instruction manual at an easily accessible location for users.

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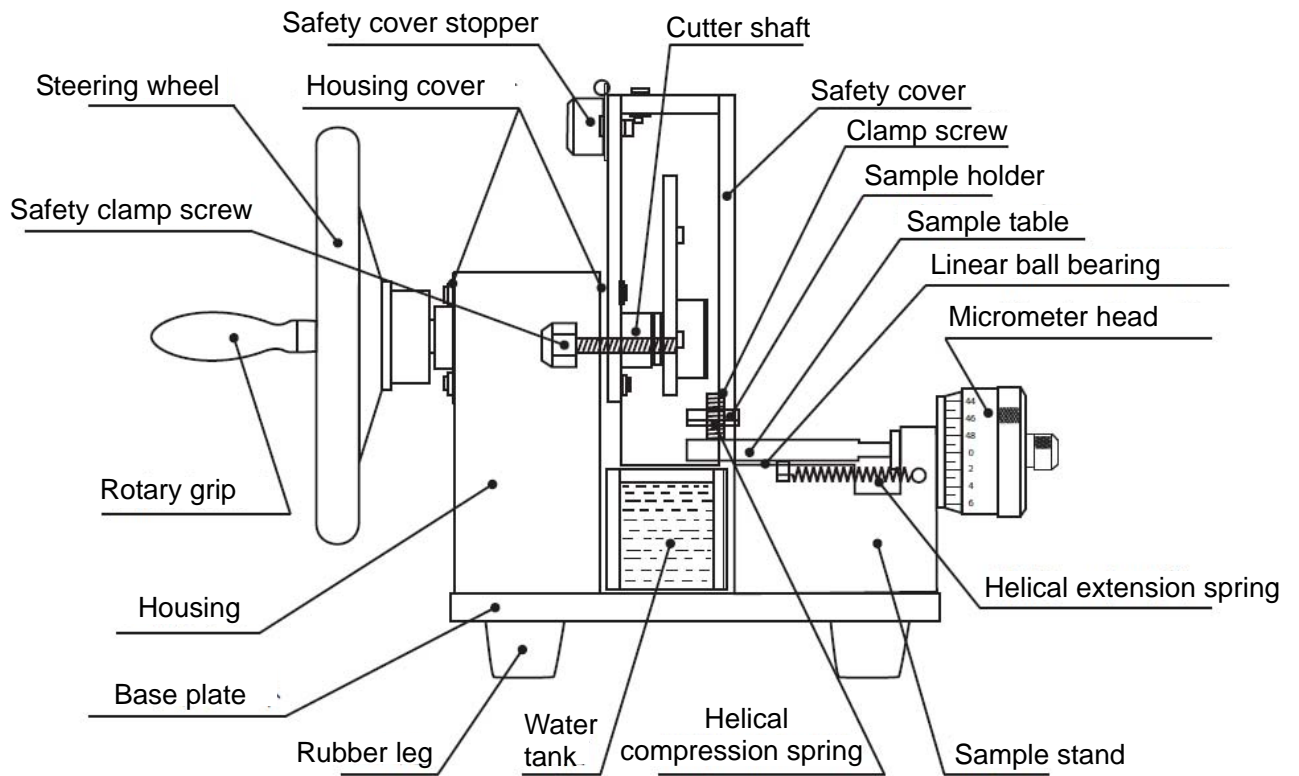
1. Characteristics

This small-sized and light-weight microtome is equipped with flywheel effect by a steel steering wheel and an angular ball bearing that allow smooth rotation of a blade without rattling. A large diameter micrometer head and a linear ball bearing feed a sample precisely and provide a slice of uniform thickness.

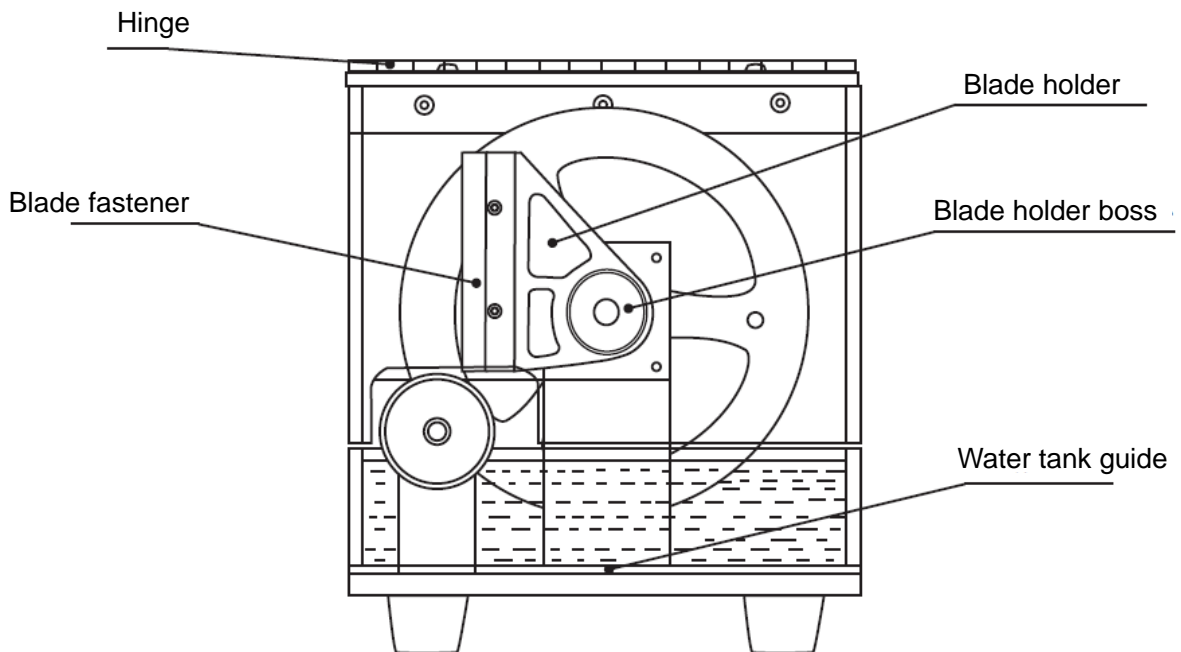
2. Specifications

Model:	MTH-1
Maximum sample size:	12 mm diameter
Minimum thickness of a slice:	0.01 mm
Cutting method:	Manual rotation
Sample feeder:	Micrometer head
	Minimum feeding: 0.01 mm
	Feeding range: 0-10 mm
Dimensions:	200 mm (W), 230 mm (H), 380 mm (D)
Weight:	Approx. 7 kg
Spare blade:	Feather Microtome Blade S-22
Accessories:	Water tank (1), hexagon wrench (1) cork borer (1), spare blade (1)

3. Descriptions of Parts



Front



Right side

4. Cautions

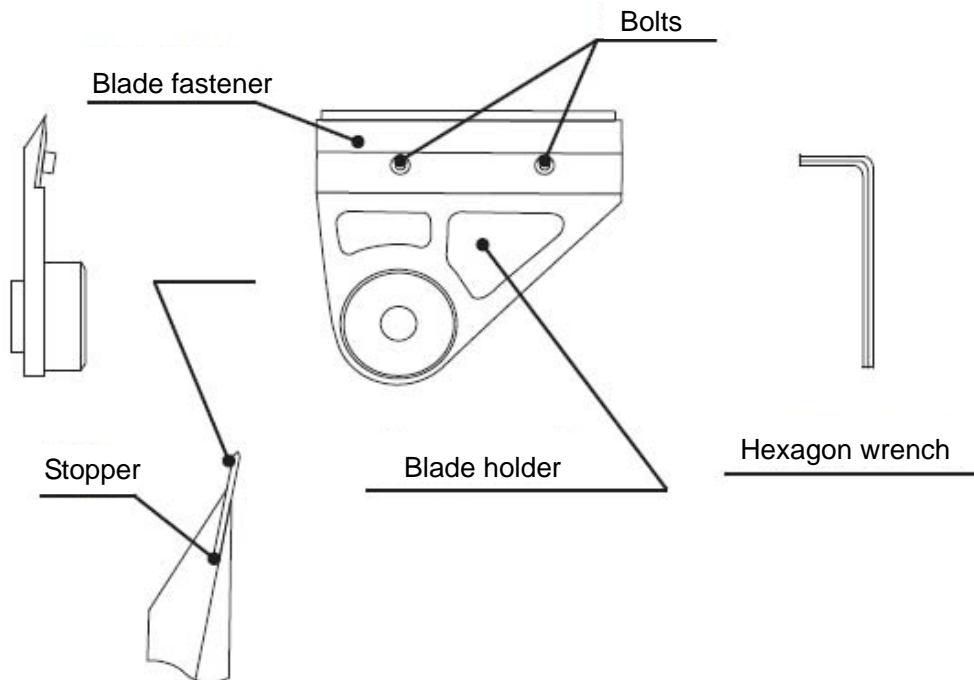
- ✧ This plant microtome is equipped with a safety clamp screw to secure the safety of users. Make sure to fasten the safety clamp screw when manipulating a steering wheel.
- ✧ Tips of a blade, a blade holder and a blade fastener are sharp. Do not touch the sharp edge when replacing a blade or setting a sample. It may cause an injury.
- ✧ Make sure that a safety cover is always applied except when replacing a blade or cleaning.
- ✧ When not in use for a long period, turn a safety clamp screw and insert the tip of a blade into a blade holder hole to fix it.
- ✧ Sharp parts including a blade. Adult supervision is required.

5. Replace Blade

Take a hexagon wrench and slightly loosen the two bolts attached to a blade fastener.

Insert a spare blade into a blade holder until it hits the stopper.

Set the blade within a blade holder and lightly tighten the two bolts with a hexagon wrench.



6. Set Samples

- ✧ The sample table is adjustable within 10 millimeter stroke by shifting a micrometer head. Make sure to move the micrometer head within the range from 0 to 10 millimeters. Exceeding this range may cause malfunction of a micrometer head, a linear ball bearing, a sample table, etc.

Rotate a steering wheel to move a blade holder toward a sample table.

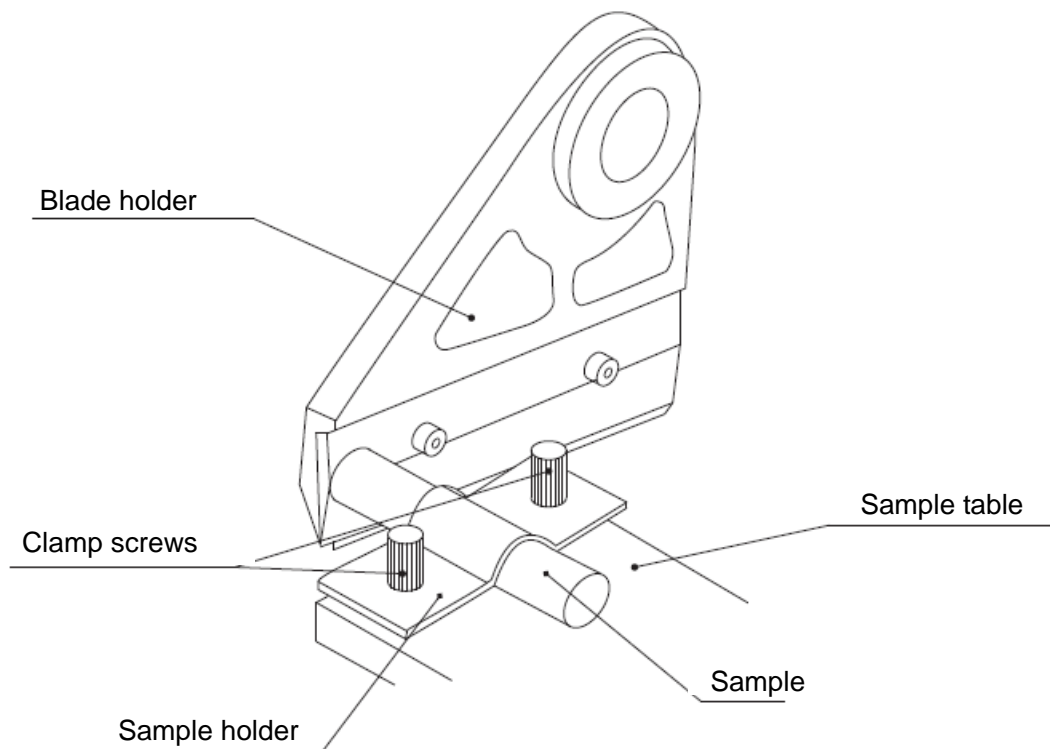
Adjust a micrometer head to move a sample table backward.

Loosen the clamp screws and raise a sample holder.

Insert a sample.

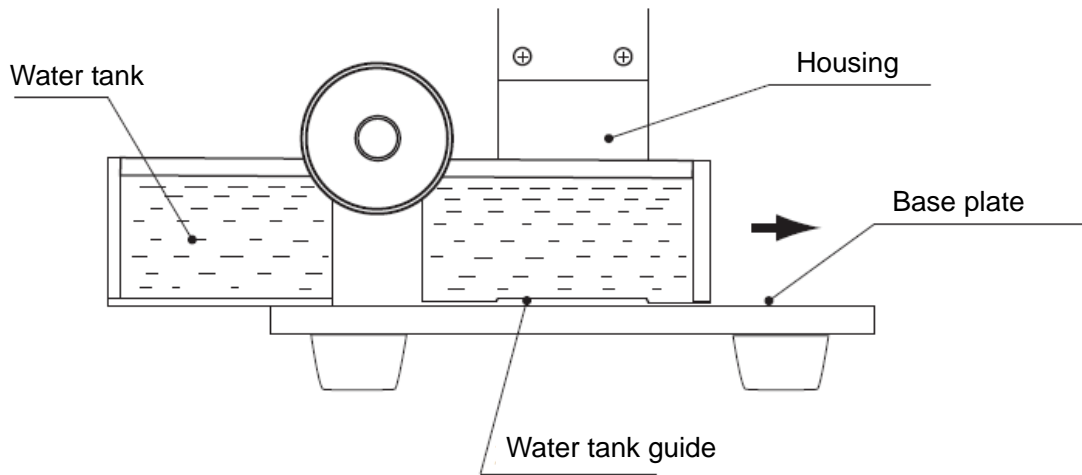
Loosen the clamp screws when the sample is placed close to a blade fastener.

Rotate a steering wheel to raise a blade holder.



7. Prepare Water Tank

Pour water into a water tank to the level 5 mm below the edge.
Rotate a steering wheel to raise a blade holder.
Insert a water tank between a housing and a water tank guide.
Make sure the tank is aligned with the base plate.

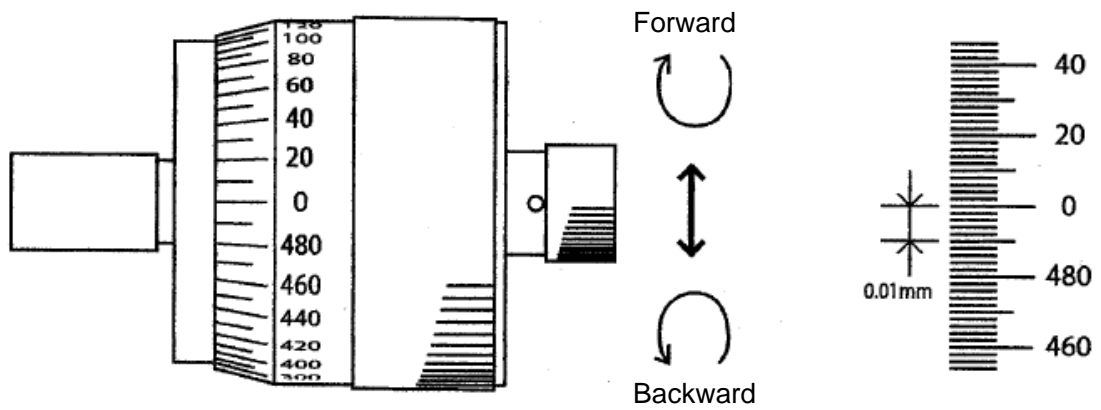
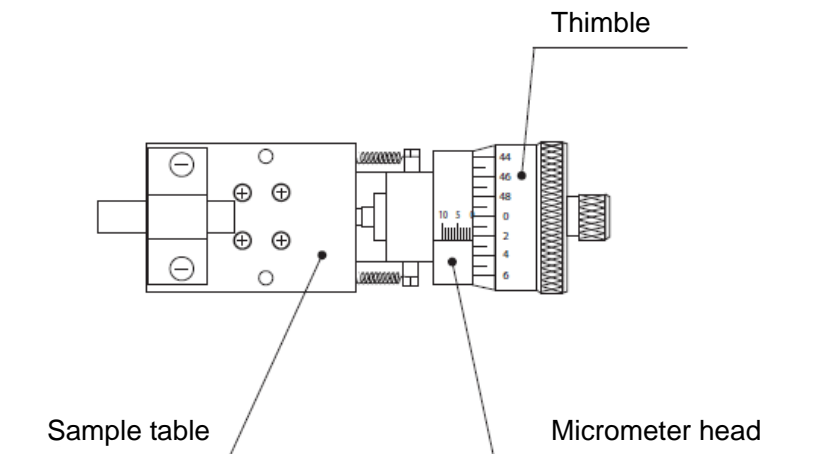


8. Cut Samples

The sample table moves 0.01 millimeters when a micrometer head thimble is turned by 1 scale.

Adjust the sample table to the thickness of a sample.

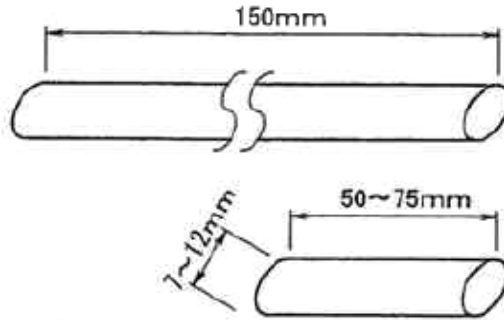
Rotate a steering wheel to cut a sample.



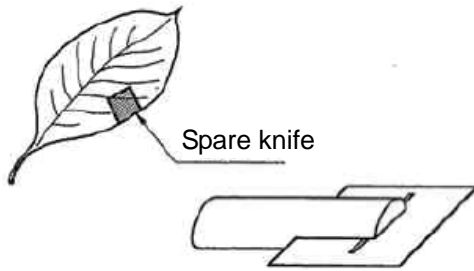
How to fix a plant sample

Use the following accessories to fix a sample.
Elder core, spare knife, glue, needle with handle, cork borer

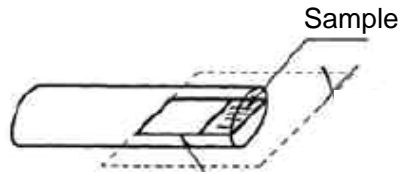
■ Elder core



1. A leaf section

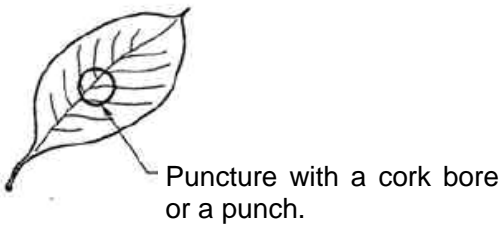


Pinch a sample with an elder core. (Cut off the extra part.)



*For a thick sample, fill a crack with attached glue.

2. Flat section of a leaf

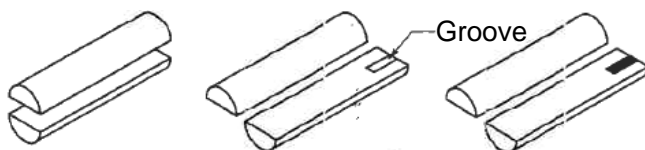


Attach the leaf to an elder core with glue.
Make sure the cutting surface of the elder core is flat.
*Do not cut it diagonally.

3. Thin or soft stem section

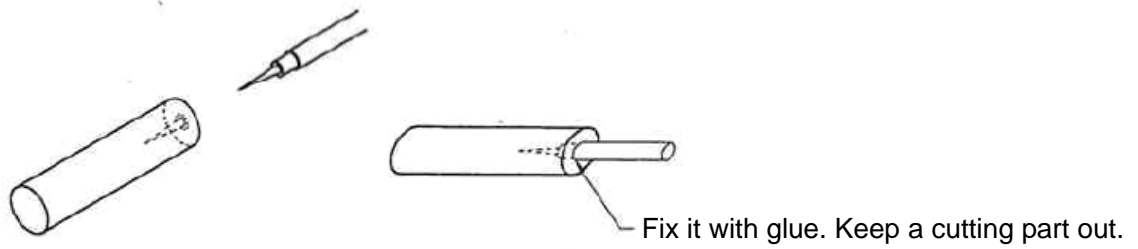
Break an elder core into two pieces and make a thin groove only at one side of the elder core.

(1) Break into a half (2) Make a groove (3) Load a sample

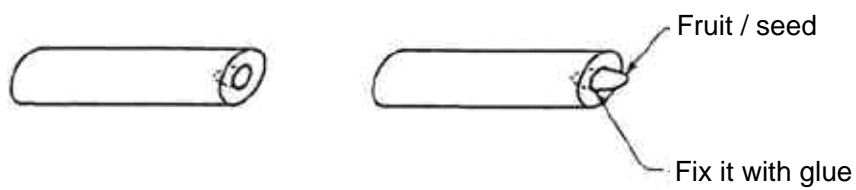


4. Thin stem section

Use a needle with handle or a thin driver to puncture a hole of the intended size.
Insert a stem and fix it with glue.

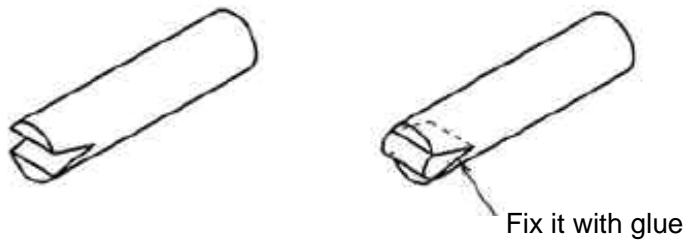


5. Round or oval items (fruits, seeds, etc.)



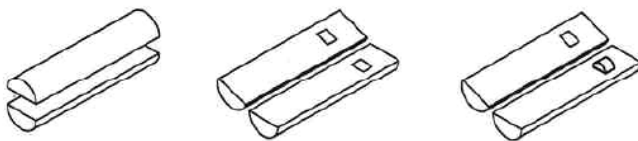
6. Vertical section of root or a thin stem

Notch an elder core to adhere a sample.

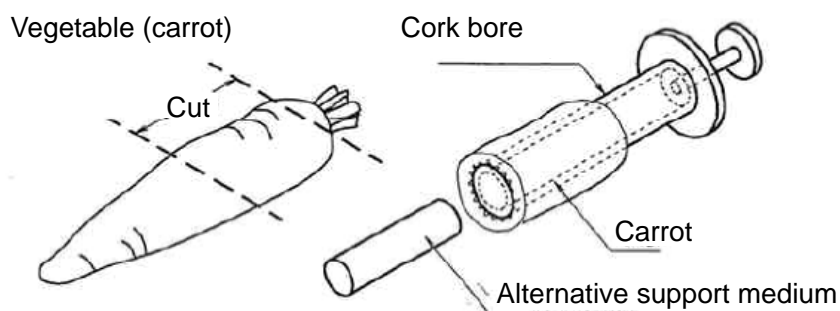


7. Vertical section of a small and long item

Break an elder core into a half and dig a groove.
It allows a section of 1 to 2 millimeters long.



Alternative support medium



**Plant Microtome
Accessories Price List**

Number	Description	Quantity	List Price (JPY)
1	Water tank	1 pcs.	8,000
2	Spare blades	50 pcs.	11,500
3	Needle with handle (metal)	5 pcs.	3,000
4	Forceps	5 pcs.	4,750
5	Cork borer	1 set	1,800
6	Glue #601	5 pcs.	7,150
7	Slide glass	1,000 sheets	9,000
8	Cover glass 18 X 18 mm	1,000 sheets	4,500
9	Elder core	10 pcs.	3,500