

## PULLERS

In this issue, we clarify the differences among various models of pullers to help you select the model that best suits your needs.



PC - 10



PN - 30



PE - 21

### Point of Difference : Weight or Magnet

Differences in the pulling force: "block weight" or "magnetic force" is used to pull a glass capillary.

#### Weight-type ( PC-10 )

Block weights are used to pull glass capillaries with the aid of the pull of gravity. Two-stage pull in particular permits the production of a flexible micropipette that is resistant to breaks when used to penetrate a cell that has hard or thick walls or when a viscous reagent is used. Various types of micropipettes can be produced with PP-830/PC-10.



#### Magnet-type ( PN-30/PE-21 )

Electromagnetic force is employed to pull glass capillaries. Powerful electromagnetic force, as well as the long pulling length, permits the production of a long and thin micropipette with a sharp-pointed tip which reduces damage to a cell, when inserted, due to its smaller dimensions.



### Point of Difference : The Diameter of a Glass Capillary

The **PC-10/PN-30** are designed for use with 1mm glass capillaries, while 1.2mm and 1.5mm glass capillaries are also usable if adjustments are made accordingly. ( When a 1.2mm or 1.5mm glass capillary is used, the heater sits off-center and thus adjustments should be made such as allowing the heater to produce a higher output. )

The **PE-21** is designed to accept 2 - 4mm thick glass capillaries as a drill chuck is used to hold a glass capillary in place. The PE-21 permits the production of multi-barreled microelectrodes using 1mm glass capillaries such as three-barrel, four-barrel or seven-barrel configurations.

### What is More

You will find guide settings for the PC-10 puller in Narishige Web New No.001. It gives you ideas of parameters and settings which you adjust.

**Check out Points of Difference above, and you will find the puller that's right for you!**

**NARISHIGE Customer Support Center**

E-MAIL: [sales@narishige.co.jp](mailto:sales@narishige.co.jp)