

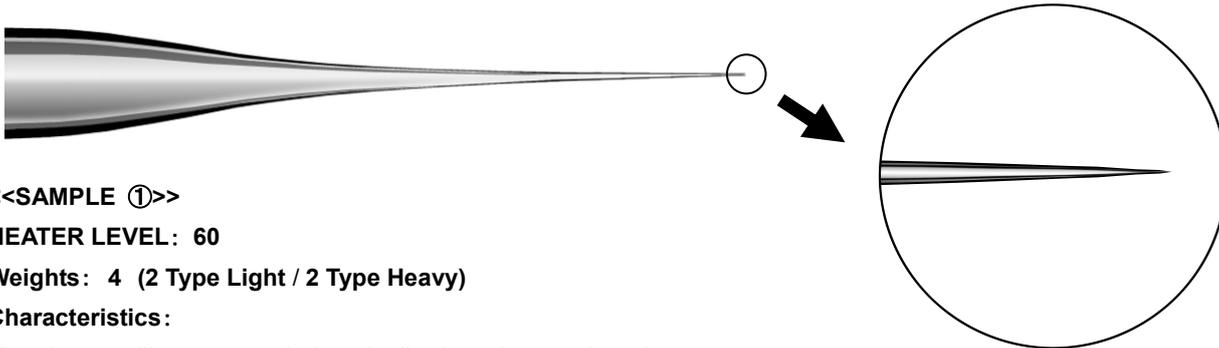
Setting Values in the PC-10 Puller (Revised)

Web News No.001 previously discussed setting values in the PC-10 puller with a guide setting table. This Web News focuses on the same topic again in order to elaborate on Web News No.001 with images of pipettes.

<*Setting values require a compensation depended on your environment or heater condition. Please use those values as of your reference.>

1. Sample values of One-stage pull

The following two sample pipettes were pulled by the same HEATER LEVEL, but the shape is different respectively by using a different number of weights.



<<SAMPLE ①>>

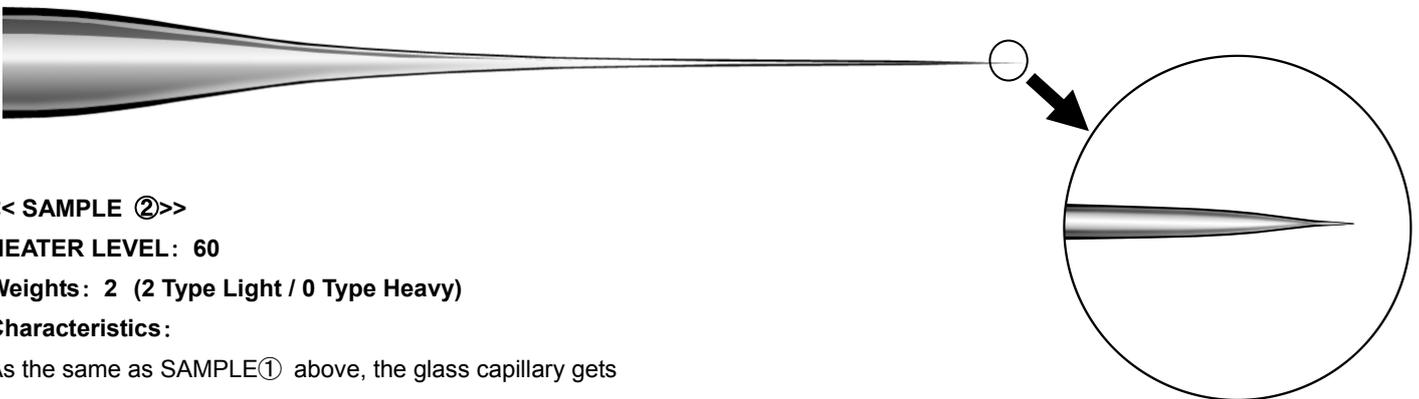
HEATER LEVEL: 60

Weights: 4 (2 Type Light / 2 Type Heavy)

Characteristics:

The glass capillary gets angled gradually, then sharp to the edge.

◎ It has a pointed run to the very end of tip.



<< SAMPLE ②>>

HEATER LEVEL: 60

Weights: 2 (2 Type Light / 0 Type Heavy)

Characteristics:

As the same as SAMPLE① above, the glass capillary gets angled gradually, then thin and parallel to the edge.

◎ It has a parallel run to the tip.

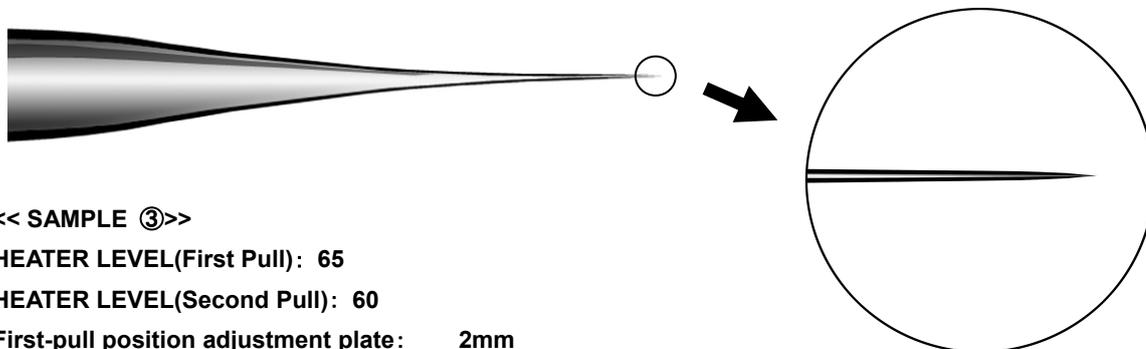
As shown above, the same One-stage pull in different settings performs to make many kinds of pipette.

- ◆ If a number of weights is changed, the shape of pipette will be drastically changed, which can be seen in its angle and parallelism.
- ◆ If a number of weights is reduced, the shape of pipette gets more parallelism.
- ◆ If you do not want to change the shape of pipette drastically, and need to change the length of tip longer or shorter, adjust the heater value of NO.2 HEATER Adjusting Knob.

2. Sample values of Two-stage pull

Two-stage pull makes more different shapes possible than one-stage pull. Determining the distance of the first-pull allows the user to make many kinds of pipette in different shapes. In this Web News, we introduce 2mm and 6mm settings of the first-pull position adjustment plate as samples. Those two samples use the same heater values set on both NO.1 and NO.2 HEATER. The differences between them are; the number of using weights 3 and 4, and the distance of first-pull 2mm and 6mm. Consequently, the shape is prominently different each other.

<*Setting values require a compensation depended on your environment or heater condition. Please use those values as of your reference.>



<< SAMPLE ③ >>

HEATER LEVEL(First Pull): 65

HEATER LEVEL(Second Pull): 60

First-pull position adjustment plate: 2mm

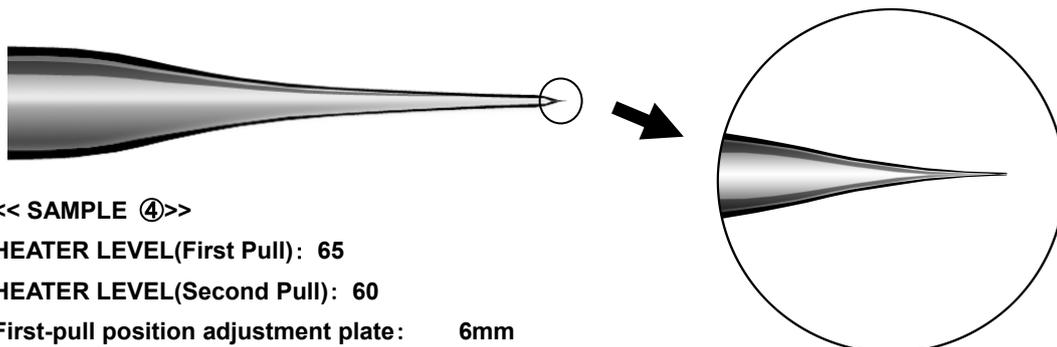
Second-pull position adjustment plate: 1mm

Weights: 3 (2 Type Light / 1 Type Heavy)

Characteristics:

After the first-pull, the glass capillary gets pointed to be thinner. The second-pull must be done at a place of the thin area and finished pulling to the end, thus it has a very thin and parallel shape of pipette.

◎ It has a thin and parallel run to the very end.



<< SAMPLE ④ >>

HEATER LEVEL(First Pull): 65

HEATER LEVEL(Second Pull): 60

First-pull position adjustment plate: 6mm

Second-pull position adjustment plate: 3mm

Weights: 4 (2 Type Light / 2 Type Heavy)

Characteristics:

Because of the long distance set in the first-pull, the thick part of glass remains closer to the very end of tip. This kind of pipette is hard to be bent or broken; it has a firm tip.

◎ It keeps a thickness to the very end of tip, and has a sharp edge.

◆ Summary of a successful pipette making ◆

1. Decide either One- or Two-stage pull, which is depended on what kind of pipette needed; parallel one, or firm tip, for instance.
2. Pre-visualize the shape of shank, thus decide the number of weights. If you want the tip sharp as much as possible, use full four weights to pull. On the other hand, if you want the pipette parallel or make it longer, reduce the number of weights.
3. After making the shape of pipette with some results, the length of pipette tip can be adjusted by adjusting the value of NO.2 HEATER.

We are planning to enhance FAQ pages on our web site. The Narishige web site will continue to provide helpful information for our customers. Narishige showrooms are available in Tokyo, New York and London. Hands-on training of pipette fabrication is possible at the showrooms. To reserve Narishige showrooms, please feel free to contact the Narishige office in your area.

If you have any questions or need further information, please contact us.

Narishige Group Website

URL: <http://narishige-group.com>