

Viper Programmable Vertical Pipette Puller



The VIPER is a programmable vertical pipette puller that has been designed to pull two identical micropipettes from one piece of capillary glass. It can be used with aluminosilicate capillary glass with diameter from 1 to 1.5 mm. The system will not pull 'high' melting point capillary tubing such as quartz. Its precision microprocessor control allows the user to fabricate pipettes with varying tip sizes and profiles to create micropipettes, patch pipettes and microinjection needles with a high degree of repeatability.

Unlike other systems on the market today that have a minimum program storage capacity, the VIPER system is capable of storing up to 20 user defined programs with 4 program steps and 4 program functions per step (Heat, Trip, Pull and Delay). Programming the VIPER is easily accomplished through the use of the front panel keyboard and the easy to read, high visibility vacuum fluorescent display. The unit comes pre-programmed with several example programs that can be user modified to aid in learning how to properly program the system. To prevent accidental erasure of your programs, a 4-digit security code can be entered into to system to write protect the stored programs. If the security program protection is active, programs cannot be changed unless the security code is first entered into the system.

- Pulls micropipette, patch pipettes and microinjection needles
- Pulls two identical micropipettes from one piece of capillary glass
- Microprocessor program control with storage for up to 20 programs with 4 lines per program
- High visibility vacuum fluorescent display
- Write protect security feature prevents accidental erasure of programs
- 'Fire Polish' program function
- Hinged, magnetically-latched door to reduce variability caused by drafts

To provide for even greater flexibility in pulling a complete range of micropipettes, tip profiles, multibarrel pipettes, etc., the unit has been designed to accommodate several different sizes of either box or trough style heating filaments. Box filaments are recommended for large diameter, multibarrel glass or aluminosilicate glass — and particularly for slice preparations where long parallel walls would aid penetration. If using a box filament, the size of the square box should be approximately 1.0 mm to 1.5 mm larger than the outside diameter of the glass being pulled. Trough filaments are excellent general-purpose filaments and are recommended for patch pipettes produced from either standard or thin wall glass.

Programming Parameters

HEAT	This setting is the relative measure of current that is passed through the filament. The program range setting is from 0 to 999, with each unit representing 40 ma of current.
TRIP	This is the relative rate of movement point at which the glass starts to pull apart under a moderate/constant pulling force. This TRIP point determines the point at which the cooling and hard pull phases of the pulling operation begin. The control range for the Trip function is from 0 to 255, with the lower settings used for pulling patch and injection pipettes and the higher settings for pulling micropipettes.
DELAY	This setting controls a 'cooling mode' that is defined as the time delay between when the HEAT turns off and when the PULL is activated. The control range is from 0 to 255 with each unit representing 2 msec of delay.
PULL	This parameter controls the force of the 'hard' pull by the carriage solenoid assembly. The control range setting is from 0 to 255.

Specifications

Capillary Glass	Borosilicate from 1 to 2 mm OD, from 3 cm (1.2 in) to 17 cm (6.7 in) long, Aluminosilicate from 1 to 1.5 mm OD
Program Storage	20 max.
Steps per Program	4 max.
Program Parameters	Heat, Delay, Trip, and Pull
Filament Types	Platinum-Iridium trough or box
Power	100/130 VAC, 60 Hz, 210/240 VAC, 50 Hz, user selectable
Weight	16 kg (36 lbs)
Dimensions	24 x 25 x 41 cm (9.5 x 9.75 x 16.25 in)

Catalog No.	Product
CGS 8259.75	Programmable Vertical Pipette Puller
CGS 8260.75	2.0 mm Square Box Filament, 1.5 mm wide
CGS 8261.75	2.0 mm Square Box Filament, 2 mm wide
CGS 8262.75	2.0 mm Square Box Filament, 3 mm wide
CGS 8263.75	2.5 mm Square Box Filament, 2.5 mm wide
CGS 8264.75	2.5 mm Square Box Filament, 4.5 mm wide
CGS 8265.75	3 mm Square Box Filament, 1.5 mm wide
CGS 8266.75	3 mm Square Box Filament, 2 mm wide
CGS 8267.75	3 mm Square Box Filament, 3 mm wide
CGS 8268.75	Wide Trough Filament, 1.5 mm
CGS 8269.75	Wide Trough Filament, 2 mm
CGS 8270.75	Wide Trough Filament, 3 mm
CGS 8271.75	Wide Trough Filament, 4.5 mm