

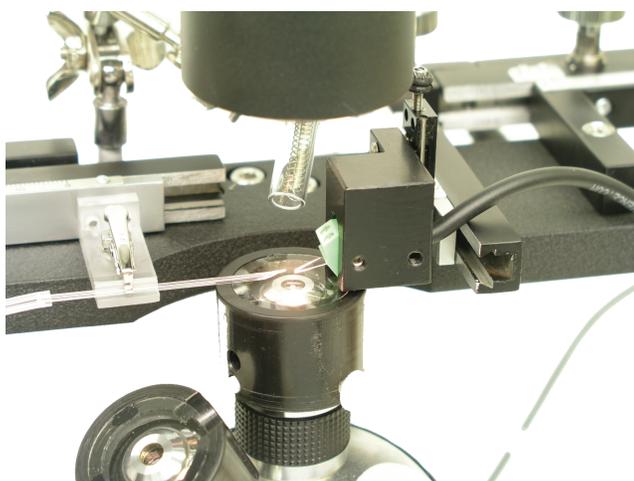
CPM-2 Coating and Polishing Microforge

Increase efficiency and lower the cost of patch pipette production by using **ALA's CPM-2** Coating and Polishing Microforge. The **CPM-2** is designed to be a complete system for processing pulled patch pipettes. It is available as a kit that mounts on a microscope or as a complete system with an inverted microscope.

Electrophysiologists polish patch pipettes because pipette pulling often leaves sharp surfaces that can damage delicate cell membranes. Coating of pipettes is often necessary with the excised patches or cell-attached configurations to reduce noise from pipette capacitance and dielectric loss¹. Pressure polishing, a recent innovation in pipette processing, minimizes series resistance with small-tip pipettes to facilitate whole-cell recording of small cells².

Features of CPM-2:

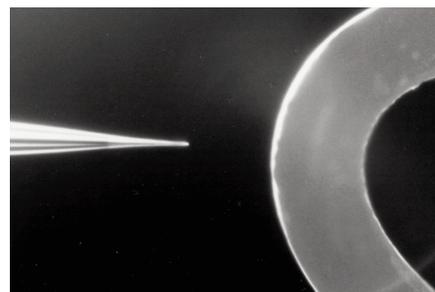
- *Available as kit to mount on inverted scope with fixed stage.
- *Available as complete system that includes inverted microscope with parfocal optics.
- *Coating and polishing on one instrument; transferring pipettes unnecessary.
- *Pressure polishing accessories to produce small tip low-resistance pipettes.
- *Convenient control of heat timing with foot-pedal switch.
- *Heating and air pressure controls conveniently located in one unit.
- *Micrometers on manipulator axes for rapid and convenient pipette positioning.
- *Electrode holder can be rotated in place for convenient, even coating of pipettes.



CPM-2 stage assembly



CPM-2 controller front panel



25x magnification showing pipette tip and polishing filament

¹ Hamill, O.P. et al. Improved patch clamp techniques for high-resolution recording from cells and cell free membrane patches. *Pflügers Arch.* **391**, 85-100 (1981).

² Goodman, M.B. & Lockery, S.R. Pressure polishing: a method for re-shaping patch pipettes during fire polishing. *J. Neurosci. Methods.* **100**, 13-15 (2000).

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ALA KXD100 Inverted Microscope features:

- * Wide field 10x and 16x eyepieces with reticle
- * LWD 10x, 25x, and 40x objectives
- * LWD phase contrast 25x objective
- * Trinocular head inclined 45°
- * Blue and green filter
- * Phase contrast annular 25x

When combined with the CPM-2:

- * Pipette holder
- * XY manipulator for pipette
- * XYZ manipulator for polishing filament
- * All parts mounted on microscope stage
- * All for one excellent price

For pressure polishing method:

- *PR-60 Pressure Regulator
- *IPH-THP Injection Pipette Holder
- *CPM-PPHold Holder Bracket



PR-60 Pressure Regulator

CPM-2 when combined with the KXD100 Inverted Microscope forms a complete coating and polishing microforge system



IPH-THP Pipette Holder



KXD100 Inverted Microscope

Ordering Details - Accessories

ALA CPM-2	Coater/Polisher Microforge Kit - for use with inverted microscopes: includes controller, coating & polishing filament, footswitch, and XYZ polishing manipulator
ALA CPM-2w/scope	Coater/Polisher Microforge including KXD100 inverted microscope
ALA PR-60	60 psi High Pressure Regulator for use in the Pressure Polishing Method
ALA CPM-HOTJET	Replacement CPM-2 hot air jet filament assembly
ALA CPM-PTIR	Replacement PtIR polishing filament - package of 3
ALA CPM-XY	CPM-2 XY stage manipulator for pipette movement
ALA IPH-THP	Pressure injection pipette holder for use in the Pressure Polishing Method
ALA CPM-PPHold	Bracket to hold injection pipette holder for use in the Pressure Polishing Method

Specifications

Power Output to filaments	15VDC/2.5A
Controller Dimensions Weight	7.65x9.85x3.85" 6lbs 0.2 oz (2.82 kg)
Polishing Filament	PtIr (90%/10%), 0.25mm diameter, 0.4Ω
Input Pressure (Min/Max)	12/30 psi (83/200kPa)
CPM-2 Power Supply	110/240 VAC to 15VDC/ 3.7A CE compliant
Polishing Manipulator Travel	70x40x3mm
Output Pressure (Min,Max)	0/5 psi (0/34.6 kPa)

Specifications are subject to change without notice