

Fully automated feedback-controlled pressure polishing

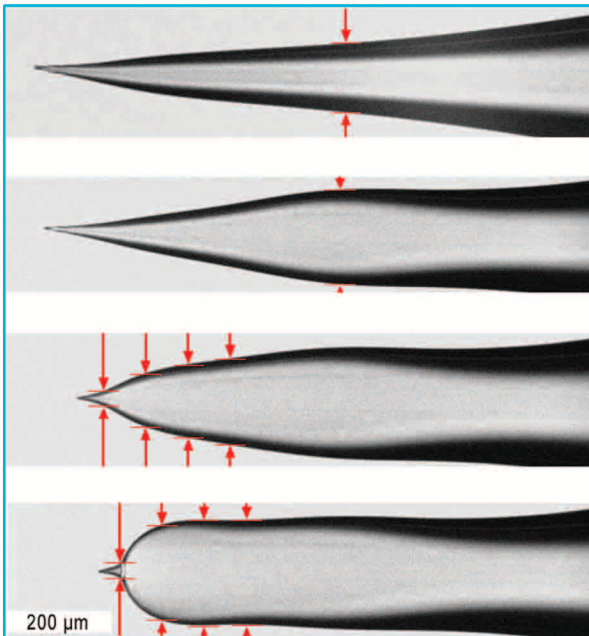
Feedback-Microforge

- Make your own glass chips
- Optimise electrode shape for your experiment
- Fully automated multi-cycle pressure polishing
- Select your desired geometry by software
- Insert pulled patch electrode and start microforge
- Watch pipette shaping on screen



Features

- Uses regular pulled borosilicate glass electrodes
- Gas flow cools tip opening during pressure polishing, preserving the critical seal area
- Precise reproducible tip geometry on a micron resolution
- Built-in machine vision CCD microscope
- Machine vision software controls process parameters and tip geometry
- Tip recognition, positioning and shaping fully automated
- Easily programmed controlling software
- Shaft and tip areas are blown in separate polishing steps
- Measures and adjusts up to 8 diameters at chosen distance from the tip
- Adapters for different capillary diameters available

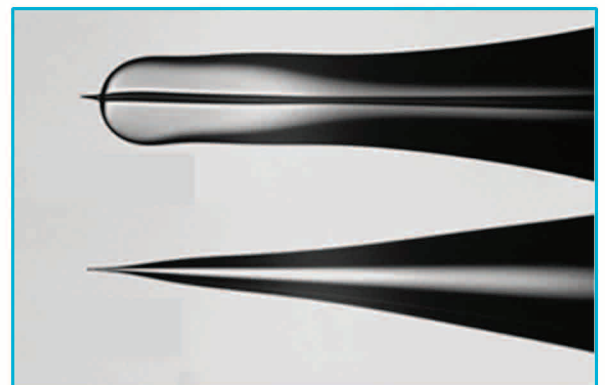


Example of two-step pressure polishing cycle using the Feedback-Microforge. Arrows indicate software-controlled diameters.

New Dimension in Patch Clamp

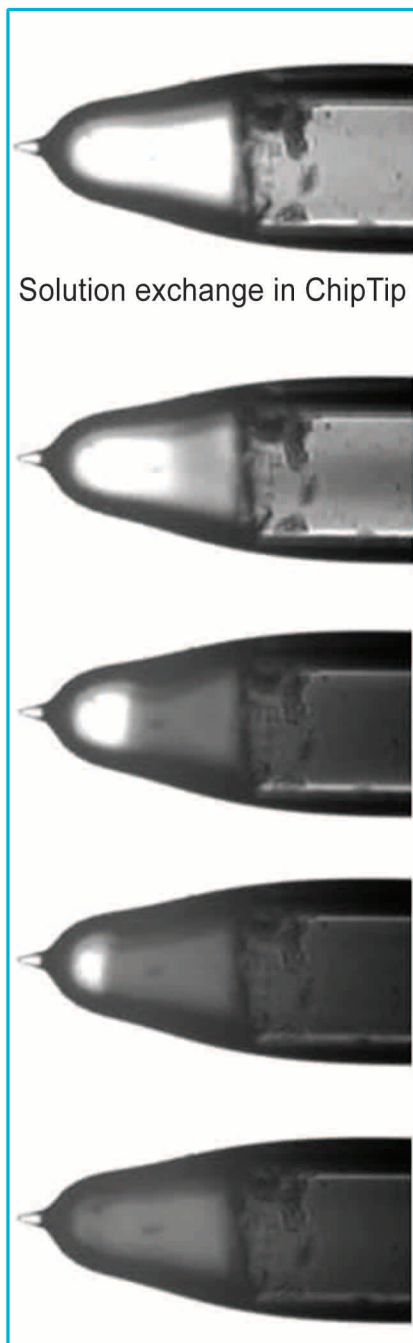
Intracellular access revolutionized

- Extremely fast internal perfusion of the pipette
- Intracellular solution exchange within <100 ms
- Rapid application of second messenger
- Rapid wash
- Quick cytoplasmic dialysis with dyes and chemicals
- Access time for perforated-patch is reduced to <10s
- 100% reliable perforation, perforated R_s <10 MOhm





ion channel solutions



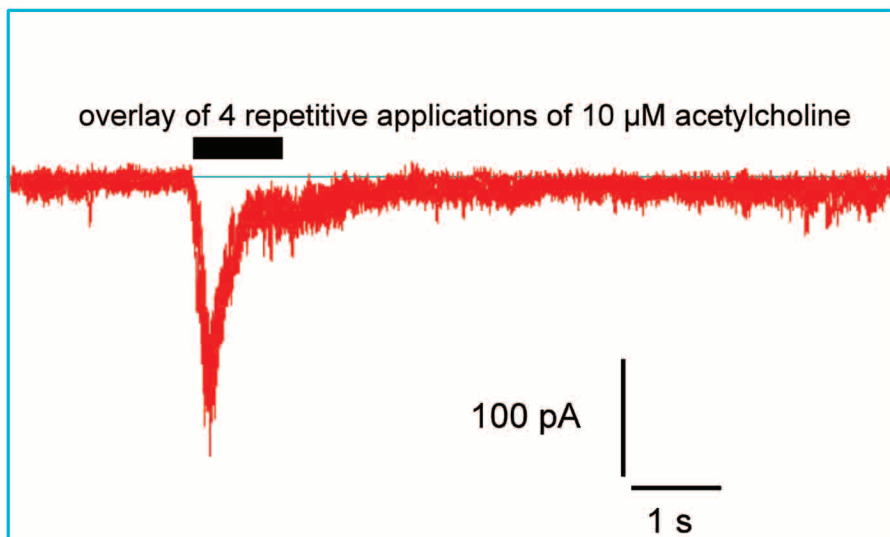
Solution exchange in ChipTip

Optimal passive properties

- Reduces space clamp problems
- Virtually eliminates shaft resistance and RC chain
- Enables precise and reproducible coating down to the “remnant tip”
- Unprecedented RC characteristics
- Allows for perfect capacitance and R_s compensation
- Ideally suited for capacity measurements
- Ideally suited for single channel analysis
- Reduces run-down problems at low R_s values
- Precisely reproducible pipette properties

New dimension in Flip-the-Tip patch clamp

- Suited for PatchBox
- High success rates with any cell size
- Extremely fast extracellular compound addition
- Rapid ligand exposure ($\tau < 50$ ms)
- Quick and complete washout
- Low pipette capacitance (10 pF uncoated)
- Low and stable access resistance



Technical data*

*Dimensions (D x W x H): (31.1 x 48.3 x 14.5) cm,
(12.3 x 19.0 x 5.7) inches*

Weight: 12 kg / 25 lbs

90-240V AC

Zeiss™ optics

Standard pipette holder for 1.5 mm outer diameter.

Adapters for different diameters available.

Accepts borosilicate and soft glass.

Example programs for thin-walled borosilicate capillaries included. Other glass on request.

**Technical details subject to change without notice*