



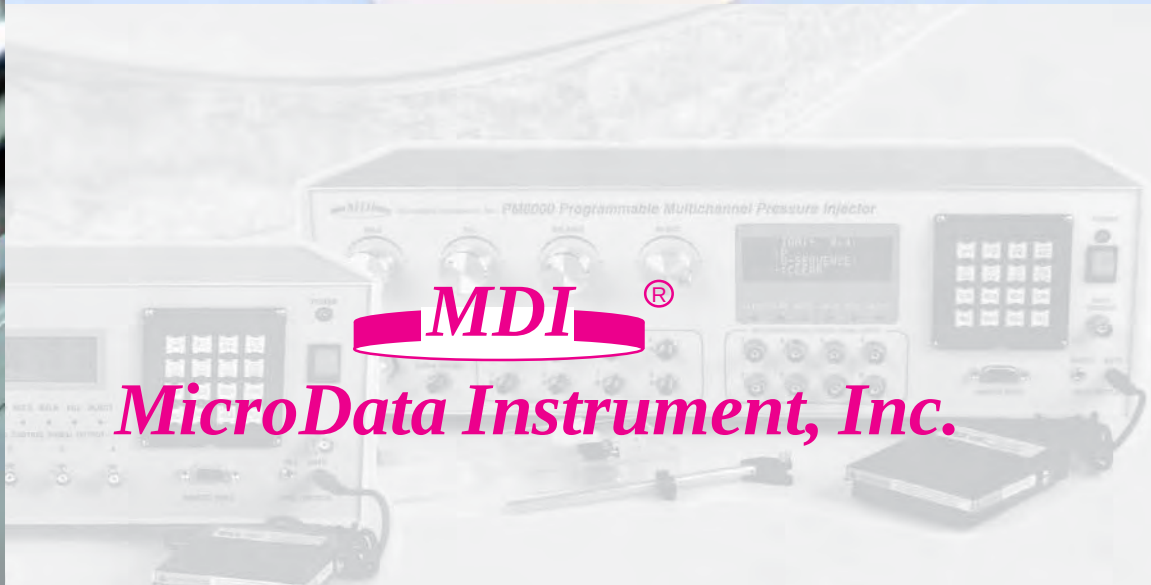
Products and Applications for the Life Science Laboratory

*Wireless Mouse Control Micromanipulators
Wireless Mouse Control Microinjection Combo
Microinjection Work Station
Microinjectors
Microperfusion Systems
Multi-Channel Microfluidic Pump
Single Barrel Micropipette Pullers
Multi-barrel Micropipette Pullers
Quartz Micropipette Puller
Microforge-Grinding Centers
Inverted Microscope*



MDI®

MicroData Instrument, Inc.



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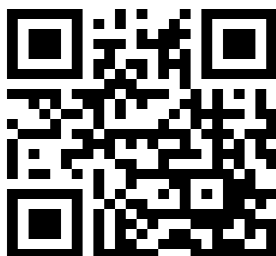


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Ordering Information

How to Order

Telephone orders must be confirmed in writing by e-mail or mail. All purchase orders must be signed by an authorized purchasing agent or person.

Export Order

Orders outside of the U.S.A. and Canada should be placed directly to this office or to the local representatives. Payment of U.S.A. currency must accompany all direct orders. Contact our sales department for quotation of shipping costs and payment options.

Prices and Specification

All prices are FOB factory. Prices and specification are subjects to change without notice. Shipping and insurance are additional.

Minimum Billing

Orders totalling less than \$300.00 are charged an additional \$15.00 for handling.

Warranty

All products are warranted to be free of defects in materials and workmanship for one year from date of shipment. Warranty becomes null and void because of abuse, disassembly, or unauthorized repair of product.

Service

Technical supports are available by e-mail or directly calling the office. Repairs and modifications are also available for all our products.

Return

Standard catalog items may be returned within 15 days from receipt, but customer must pay all shipments. Returns after 15 days and before 30 days will be subject to a 20% restocking charge. No return after 30 days. All return items and package should be maintained original condition and without damage. Used or contaminated pipettes, tubing and vials are not returnable. Modified or special order items are not returnable. Contact MicroData Instrument, Inc. for return authorization. Unauthorized return will be refused.

PMP-102 Programmable Micropipette Puller



Pulled Samples from Preset Sequences:

SEQ1 H/P	SEQ11 PH/P
100 um	
SEQ2 H/P	SEQ12 RH/P
SEQ3 H/P	SEQ13 RH/P
SEQ4 H/P	SEQ14 RH/P
SEQ5 H/P	SEQ15 RH/P
SEQ6 PH/P	SEQ16 RH/P
SEQ7 PH/P	SEQ17 RH/P
SEQ8 PH/P	SEQ18 RH/P
SEQ9 PH/P	SEQ19 RH/P
SEQ10 PH/P	SEQ20 RH/P
SEQ22 RH/P	SEQ21 RH/P

Specifications:

Pipette	Single barrel, 1mm-3mm O.D. borosilicate or aluminosilicate glass capillary tubing.	Sequences	99 savable	Pressure air input	30-60 psi
Pulling force	Pneumatic	Steps	18 /per sequence	Display	20x4 LCD
Heater	Nichrome coil	Preset sequences	30 and 30 backup	Actions	Pull 1, Pull 2, Pull 2/Cool, Cool Air and Return.
Heater control	Microcontroller	Physical samples	22	Input Voltage	Preset 110 or 240 VAC
Heating Level	76 general heat levels (24-99), 54 automatic heat levels (45-98).	Taper length setting	0.5 - 20 mm	Power consumption	Maximum 150 watts
		Pressure 1 regulator	0.1 - 10 psi, adjustable	Dimension	18"L x 8"W x 11"H
		Pressure 2 regulator	0.1 - 60 psi, adjustable	Weight	23 lbs.
		Cool air pressure	0.5 - 30 psi, adjustable		

Description and Applications

The PMP102 is a state of the art microprocessor controlled glass micropipette puller. It pulls a glass pipette horizontally to two identical micropipettes each time. Varied micropipettes, such as patch clamp electrodes, intracellular electrodes, injection micropipette, hold cell pipette and microneedles all can be pulled out by sophisticated preset sequences or sequences programmed and created by users. To achieve these versatility and the higher degree of reproducibility, many advanced technologies are applied on this micropipette puller.

Product Features

● Exclusive Optical-Digital Taper Measurement

An exclusive optical-digital ruler in the PMP102 performs precise real-time taper the

set point dynamically. As a result, the puller always provides precise heating power, despite of many times of pipette pulling or thermal/electrical characteristic changing. The heater can also be set to automatically search the melting point for different glass pipettes. Plus a powerful computerize tip sensing function, pulled measurement and pull length controlling the puller can finish multistep tip pulling precisely and automatically.

● Computerize Real-Time Feedback Heater Control

Inside the PMP102, there is an advanced microcontroller to perform real-time heater monitoring and close loop controlling. If a heating level is selected and preset, the microcontroller will measure the actual heating power during heating power on. The measurement is real-time displayed and feedback to the control unit to produce heat matching

● Expertise Preset Pulling Sequences and Physical Pulled Samples from 99 Programmable Savable Sequences for Reliable Reproduction and Creation

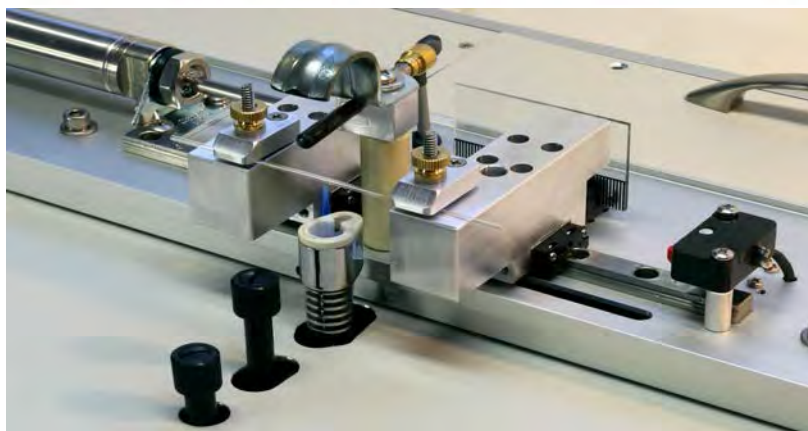
There are 30 expertise preset sequences and 30 backup sequences in total 99 user programmable and savable pulling sequences with 18 steps in each sequence. The 30 preset sequences are created and concluded by expertise endeavor with many successful practices, which cover mostly major kinds of different glass micropipette applications. Moreover, each finishing PMP-102 comes with 22 physical pulled samples from preset sequences on the unit. Users can easily select the right sequence by viewing the physical pulled samples. The preset sequences are convenient and important, not only because they can pull mostly different micropipettes but also they can be copied as templets to create new sequences with only minor parameter change. Users can easily program different pipette tip size, tip length and tip shape in different sequence for special applications. Time, heat level, heat control and action parameters all can be programmed in the unit.

● Pneumatic Pulling Force and Very Compact Size

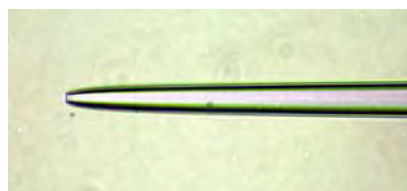
A simple 30-60 psi pressure air source is only pressure input to the PMP-102. With precise regulated pressure controlling the PMP-102 pulls with more controllable, much even and consistent dragging characteristics than gravity or magnetic force. Within a very compact size, the PMP102 can precisely and automatically perform single to multistep pulling without manual interrupt. A precision micro-linear ball bearing rail and advanced pneumatic components are used to provide no fault pulling movement. A simple keypad and full information display LCD let users read all pulling parameters directly and control easily. With many advanced features, pulling an ideal micropipette is no longer an uncertainty of hand skill, but a reproducible automatic processing in the PMP-102.



PMP-102Q Programmable Quartz Glass Micropipette Puller



- Pull fused quartz, fused silica glass micropipette with regular cooking butane gas.
- High efficient micro torch with precision flame control without focusing problem.
- Manufacture preset sequences within up to 99 Programmable sequences.
- Precise tip length setting with horizontal symmetric double pull.



Quartz glass (fused quartz, fused silica) pipette has much lower dissipation factor and dielectric constant than that of other glass. Quartz pipette tip is much stronger than other glass too. In another word, the quartz pipette tip can be less noise in the patch clamp recording and not easy to break the tip when penetrating tough tissue. If these better electrical characteristics and better physical features of a glass pipette tip is the critical point of your application, you need pulled quartz pipettes or quartz glass pipette puller. The PMP-102Q is just developed and designed to pull quartz glass pipette. With very successful technique and features designed for PMP-102 Programmable Micropipette Puller, the PMP-102Q is continually adopted the advanced microcomputer control, optical ruler measurement, heat control and precision pneumatic pulling force control for the quartz glass pipette pulling. Another bright point of the PMP-102Q is using regular cooking butane gas cartridge as heating gas source instead of using expensive and complicate laser heating source. The butane flame is optimal controlled by the PMP-102Q and well fit in a convenient and compact platform. With total savable 99 programmable sequences, the flame, pull force, pulling distance, timing can be set and programmed in up to 18 different steps in each sequence. There are very useful standard sequences which are preset by MDI experts with numerous practices and experience. A regular cooking butane cartridge can be used for long time and easy to be handled as operating a butane cooking stove in a PMP-102Q. Without the focusing problem in a laser heater, the PMP-102Q can pull pipette with 0.1 mm OD to 1.5 mm OD thin wall quartz glass tubing. It can handle more pulling steps without a focusing problem. The PMP-102Q is a practical, compact, precise control and reliable new quartz glass pipette puller.



Accessories Description:

IP-1

Standard 6 feet 1/4" O.D. input tubing with connector to PM and 1/4" swift-fit connector for source air. Longer tubing can be selected.

OP-2

Teflon output tubing with connector to PM and male luer connector for pipette holders or vials. There are three sizes: 1.8, 2.0, 2.2 mm O.D.. Teflon tubing can be selected.

OP-4.5, OP-10, OP-30

4.5 ml, 10 ml, or 30 ml vial with In/output tubing from top of vial, and connectors to fit for HOLD1-4-7, OP-2.

OV-1.5, OV-5, OV-10, OV-30

1.5 ml, 5 ml, 10 ml or 30 ml vial with input female luer on top and output male luer in bottom.

STB-1.5, STB-4.5, STB-10, STB-30

OV or OP-1.5, 4.5, 5, 10 or 30 ml vial holder. 5x or 8x vial holders can be selected.

Air Switch Quick connect 1/4" OD tubing, manual switch air on/off. **T-Connector** Quick connect 3-way 1/4" OD tubing.

1/4-3/8 Connector Quick connect 1/4" OD to 3/8" OD tubing.

UP-3, UP-4, UP-7 Un-pulled 3, 4, 7-barrel pipette.

PP-4 Pulled 4-barrel pipette. **PP-7** Pulled 7-barrel pipette.

HOLD-1

Stainless Steel Pipette holder (L 150 mm, D 6.36 mm) for 1-1.5 mm O.D. single pipette.

HOLD-1S, HOLD-1SE

Stainless Steel Pipette holder (L 170 mm, D 4.8 mm) for single 1-1.5 mm O.D. pipette.

HOLD-4

Pipette holder (6.35 mm OD) for 4-barrel pulled pipette with 4x 1/32 I.D. Tygon tubing & female luer connector for 1 mm OD barrel.

HOLD-7

Pipette holder (6.35 mm OD) for 7-barrel pulled pipette with 4x 1/32 I.D. Tygon tubing & female luer connector for 1 mm OD barrel.

PM-KP Remote key pad for PM2000, PM2000B or PM8000.

RK-1 Rack mounting kits with handles for PM1000 or PM2000.

RK-2 Rack mounting kits with handles for PM2000B or PM8000.

FSW Foot Switch for PM series and Microforges.

HC-2 Heat coil for PMP-102.

HC-7 Heat coil for PMP-107.

HC-7L Heat coil for PMP-102LD, PMP-107Le or PMP-107Lr.

MOUSE-1, MOUSE-2

Special mice can remote control of Injection, Hold and Fill or programmed functions for PM1000 or PM2000, PM2000B, PM8000.

Optional pressure air source for PM or PMP series:

Light and Quiet Portable Air Compressor w/ 1 Gal. Tank

Ultra quiet - only 56 dB. Oil-free pump. Lightweight for easy transporting - 29.5 lbs. 1 Gal. steel tank. Powerful 0.6 HP. 1.60 CFM at 40 PSI and 1.20 CFM at 90 PSI. Low amp draw - 4.5 Amp. California Air Tools Cat 1p1060s.

Joystick Hydraulic 3D
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Multi channel
Microinjector /
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PMP-107 Programmable Multipipette Puller



PMP-102Q Programmable
Quartz Micropipette Puller



PMP-102 Programmable
Micropipette Puller

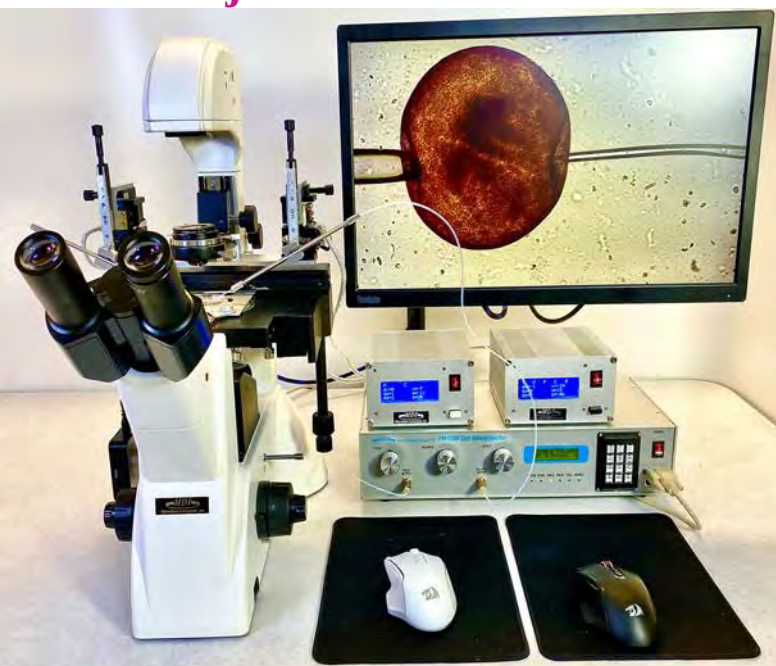


PMP-107Le Programmable
Super Length Multipipette Puller

IMS-03 Inverted Microscope
Microinjection



Mouse Control Micromanipulators and
Microinjection Work Station



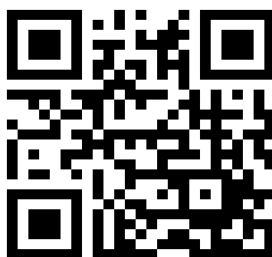
WIRELESS MOUSE COMPLETE CONTROL
3D MICROMANIPULATOR and MICROINJECTOR



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