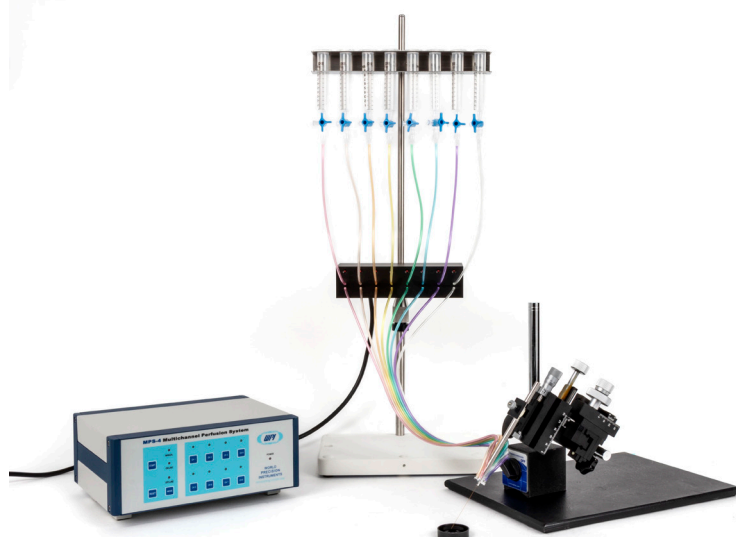




# MPS-4 Multi-Channel Perfusion System

Programmable 8-Channel System for Single Channel & Whole-Cell Patch Preparations

## SINGLE ION CHANNEL & WHOLE-CELL SOLUTION EXCHANGE



MPS-4 is a programmable 8-channel perfusion system designed for single channel and whole-cell patch preparations. Offering the best combination of performance and value, the MPS-4 incorporates the same high quality solenoid valves found on similar but much more expensive systems. Unlike other perfusion systems on the market, which often compromise performance to fit every possible application, the MPS-4 is the only perfusion system designed and optimized specifically for single-channel and whole-cell patch perfusion applications.

### BENEFITS

- Color-coded polyurethane ribbon style tubing for easy identification
- Super low dead volume (<100 nL) micromanifold
- Economically priced
- Organized, color-coded tubing system without contaminants of PVC tubing
- Low flow resistance and dead volume with the unique micromanifold

### APPLICATIONS

- Single channel perfusion applications
- Whole cell patch perfusion applications
- Drug delivery under a microscope (in patch clamp application)

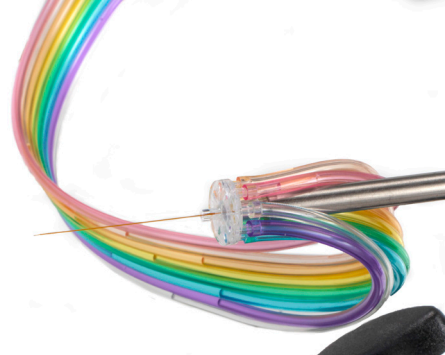
### Manual or Programmable Control

The system can be controlled manually via membrane switches on the front panel or through a PC. Two different manual control modes are offered. One control switches each channel independently, and the other mode allows you to assign a master channel that will keep the system flow when all other channels are switched off. User-friendly graphic timing software is included, and the programmed perfusion sequence can be started by computer, a patch clamp amplifier or other external trigger, or manually by the user.



## Ribbon-Style Tubing

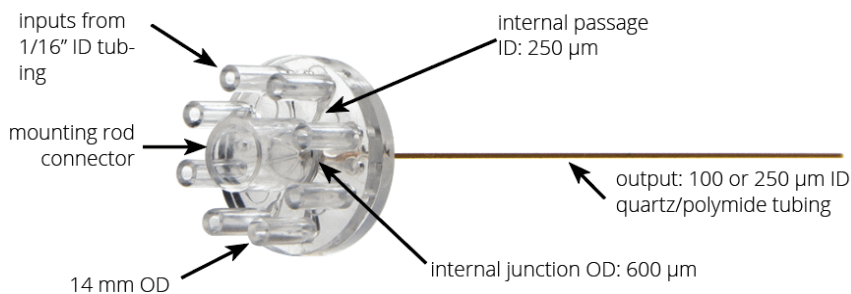
The perfusion fluid flows through specially designed color-coded polyurethane ribbon style tubing. The color-coding allows you to easily trace each channel for diagnostic checks or set up and the ribbon style of tubing keeps the system neat and organized. Unlike PVC based tubing, polyurethane tubing contains no plasticizer, which can cause contamination. The tubing ribbon is designed as an economical disposable item, which is often critical when cleanliness is needed.



## Unique $\mu$ -Manifold

The most unique feature of the MPS-4 is its perfusion micro-manifold. Using the latest microfluidic techniques, the injection molded  $\mu$ -manifold provides the least flow resistance and dead volume of any product on the market. The flow channel inner diameter is approximately 1.0mm, except for the last 5mm before the junction point. This design allows a fast flow rate without using a pressured system. The maximum flow rates are 8 and 500 $\mu$ L/min at 50cm for the 15mm long 100 $\mu$ m and 250 $\mu$ m ID tips, respectively. Small channels and a unique design at the merging point further reduce the chance of cross contamination. Dead volume is less than 100nL.

- Dead Vol: < 100nL (at junction)
- Output tubing (polyimide coated quartz): 50mm/long



502110/502125

## SPECIFICATIONS

SPECIFICATION	VALUE
Channels	8
Valve Response Time	2ms
Valve Control	TTL, USB via software and external start
Syringe Reservoir Volume	10mL
Manifold	8 to 1
Manifold Tip ID	250 $\mu$ m and 100 $\mu$ m
Maximum Flow Rates (gravity fed)	502110: 100 $\mu$ m Tip ID, 8 $\mu$ L/min. at 50cm 502125: 250 $\mu$ m Tip ID, 500 $\mu$ L/min. at 50cm
Dead Volume	< 100nL excluding the single outlet tubing
Computer Requirements	Windows® 10 & 11 Compatibility

## SYSTEM INCLUDES

- Stand
- MPS-4 Controller
- Valve Console
- Syringe Holder
- USB Cable
- (10) 10mL Syringes
- (10) 3-Way Stopcocks
- (10) Luer Fitting with Barb For 1/16" ID Tubing
- 5' Color Coded Polyurethane Tubing Ribbon
- $\mu$ -Manifold With 100  $\mu$ m ID Tip (WPI #502110)
- $\mu$ -Manifold With 250  $\mu$ m ID Tip (WPI #502125)
- Windows® Software