

- Automatically operated micropositioners for precise tension control
- Chamber can easily be divided to keep 2 mounted samples separate
- Glass windows in chamber base facilitates morphological or fluorescence measurements
- Automated normalization procedure to calculate and set the pre-load tension



The Auto Dual Wire Myograph System - 520A is designed for simultaneous testing of two vessels with diameters of 30  $\mu\text{m}$  - 3 mm, independently. The vessels are mounted as ring preparations by threading them over two parallel wires and securing the wires to two supports or "jaws". One support is attached to a linear motor-driven micrometer, allowing automated control of vessel circumference and stretch. The other support is attached to a force transducer for measurements of force/tension development. The base of the chamber contains glass windows allowing morphological observations or fluorescence measurements on an inverted microscope. Typically, the preparation is kept in the heated vessel chamber in a physiological salt solution at 37°C bubbled with oxygen where the vessels remain viable for up to 12 hours.

The preparation is mounted in a heated 10 ml acid-resistant stainless steel chamber, which can be covered with a lid with ports for rapid suction/draining, refilling and bubbling of oxygen. Following mounting and equilibration, the passive length-tension relationship of the vessel is determined. During the actual experiment, the circumference of the vessel is kept constant. Compounds can be added directly to the chamber, and the vessel's contractility and reactivity are measured under isometric conditions.

Determination of the passive length-tension relationship for the mounted vessel is fully automated. Using the automated micropositioner a normalization procedure is performed and pre-load calculated and set.

In the Auto Dual Wire Myograph System, the chamber can be divided for independent testing of each vessel. The two vessels also can be mounted in a single chamber by removing the divider. This allows direct comparative studies of vessels from treated/untreated conditions or diseased vs. healthy patient samples, for example, by exposing the vessels to identical concentrations of drug or compound. It is thus possible to examine whether a given pathological state is associated with altered morphology or reactivity.

As an option, an electronic valve can be added to the system for easy control and emptying of the chamber using vacuum source and vacuum trap.

The Wire Interface with touch screen makes it easy to set up and use. Furthermore, the Wire Interface is compatible with the DMT Device Enabler allowing automatic recognition of supported devices by LabChart, use of multiple devices simultaneously, correct units and ranges in LabChart channels and simultaneous recording of data into LabChart alongside a PowerLab. The DMT Device Enabler allows the Auto Dual Wire Myograph System - 520A to stream data directly into LabChart.



# AUTO DUAL WIRE MYOGRAPH SYSTEM - 520A

## CHAMBER:

Chamber volume (min)	2.7 ml
Chamber(s)	2
Chamber material	Acid resistant stainless steel
Vessel size	>30 $\mu$ m
Vessel normalization	Automatically
Micrometer resolution	0.01 mm
Mounting type	Jaws

## TEMPERATURE:

Range	15.0 to 50.0 $^{\circ}$ C
Resolution	0.1 $^{\circ}$ C
Stability	$\pm$ 0.2 $^{\circ}$ C
Heating	Yes

## TRANSDUCER:

Output reading	mN
Range	$\pm$ 200 mN
Resolution	0.01 mN
Force calibration	Yes

## OUTPUT:

Data communication	USB 2.0
Analogue output channels	4
Analogue output range	$\pm$ 2.5 V

