

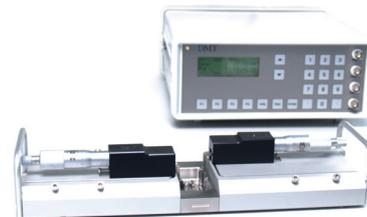
Dual Wire Myograph System - 410A

The manual Dual wire myograph system is for simultaneous testing of two vessels with diameters of 60 µm - 3 mm, independently. The vessels are mounted as ring preparations by threading them over two parallel stainless steel wires and securing the wires to two supports or "jaws". One support is attached to a precision micrometer, allowing manual control of vessel circumference and stretch. The other support is attached to a force transducer for measurements of force/tension development.

The preparation is mounted in a heated 10 ml acid-resistant stainless steel chamber, which can be covered by a lid with ports for rapid suction/draining, refilling and oxygen supply. The chamber can be divided for separate independent testing of each vessel. In the base of the chamber are 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 at least 12 hours.

In the manual Dual wire myograph system the two vessels can also be mounted in one chamber, by removing the divider. This allows direct comparative studies of vessels from treated/untreated conditions or patient samples e.g. diseased vs. healthy and exposing the vessels to identical concentrations of a testing compound. It is thus possible to examine whether a given pathological state is associated with altered morphology or reactivity to endogenous compounds. It is also possible to examine whether drugs are able to normalize vessel reactivity.

Following mounting and equilibration, the passive length-tension relationships of the vessels are determined, the so-called normalization. During the actual experiments, the circumferences of the vessels are kept constant, i.e. the vessels are examined under isometric conditions. Compounds are added directly to the chamber and vessel tension is monitored for possible contractile or relaxing effects of the compound.



Stainless steel jaws

The stainless steel jaws are the standard outfit of the myograph as they allow the mounting of small vessels. For work requiring electrical field stimulation the jaws are made in plastic and have an attached platinum electrode.



Chamber cover

Cover with suction/draining, refilling and oxygen supply



Technical specifications

Tissue/Vessel size:	>60 µm
Chamber:	Dual, independent or dependent
Chamber material:	Acid-resistant stainless steel
Chamber volume:	Max. 10 ml
Chamber suction:	No
Chamber cover:	With connection for suction and gassing
Chamber gassing:	Yes
Force range:	-100 -/+200 mN
Force resolution:	0.01 mN
Micropositioners:	Manually operated precision micrometer
Weight calibration:	Manual
Heating:	Built into chamber, independent of superfusion
Temp. range:	Ambient temp. - 50 °C
Temp. resolution:	0.1 °C
Temp. probe:	External
Output reading:	Force (mN)
Analogue output:	Up to four output, 1.0 V full scale for all acquired signals, user defined
Serial output:	Serial interface - RS232/RS485
Voltage:	100 to 240 VAC (auto) 50/60 Hz
Ambient temp.	15-30 °C
Optional accessories:	
Enable pH-meter on the interface	
- range	pH 0 - 14
- temp. correction	0 - 50 °C

Set-up example

