

CONFOCAL WIRE MYOGRAPH SYSTEM - 360CW

- For use with small vessels or ring shaped tissues from 30 µm - 3 mm, inverse mounted on special jaws
- For fluorescence or high-end morphological imaging
- Sandwich bath design enables use of very low working distance objectives
- Conical chamber to facilitate very low media volume. Hinged top facilitates easy access



The Confocal Wire Myograph System - 360CW is specially designed to provide very close optical access to the mounted artery or tissue segment, thereby allowing high resolution images of fluorescent dyes or markers by laser scanning confocal microscopy (LSCM). This system elegantly combines LSCM with artery myography to allow simultaneous measurements of isometric force and fluorescence. A perfect example are studies that correlate isometric contractions in an isolated, mounted blood vessel and intracellular Ca^{2+} measurements within the vascular smooth muscle cells.

The unique design of the chamber combines the precision and stability of conventional wire myographs with the added feature of precise Z-axis movement by a micrometer. This optimizes the flexibility of using this system with different LSCM and various high magnification objectives.

The bath design allows easy access for the high numerical aperture immersion objectives used on inverted microscopes and also direct immersion objectives used on standard upright microscopes. In addition, special mounting supports were specifically designed to allow precise vertical positioning of a mounted blood vessel or tissue ring directly above or on the chamber window. This permits the use of objectives with working distances smaller than 250 µm on an inverted LSCM. This may be advantageous when simultaneous electro physiological measurements are collected from the top of the mounted tissue.

The chamber is supplied with a custom cover for inverted or upright microscope systems. The covers include connections for suction, gassing or measurement electrodes (pH, NO, O₂ tension). Compounds can be added directly to the chamber, and vessel force/tension can be directly measured while on the LSCM. Data acquired from the Myograph (such as force and temperature) can be recorded continuously, either by using the user-defined analog outputs or the USB output directly connected to the PC installed with DMT Device Enabler and LabChart.

CHAMBER:

Chamber volume (min)	2.2 ml
Chamber(s)	1
Chamber material	Acid resistant stainless steel
Vessel size	>30 µm
Vessel normalization	Manually
Micrometer resolution	0.01 mm
Mounting type	Jaws

TEMPERATURE:

Range	15.0 to 50.0 °C
Resolution	0.1 °C
Stability	±0.2 °C
Heating	Yes

TRANSDUCER:

Output reading	mN
Range	±200 mN
Resolution	0.01 mN
Force calibration	Yes

OUTPUT:

Data communication	USB 2.0
Analogue output channels	4
Analogue output range	±2.5 V

