

The Radnoti Working Heart System 130101EZ permits the researcher to create both constant pressure and constant flow re-circulating and non-re-circulating Langendorff preparations, as well as the working heart preparation for Mouse and Rat (for larger donors please see 120101BEZ). Any of these preparations may be paced (see Radnoti Part number 140157 Pacing Electrode) or spontaneously beating. The system can be instrumented to measure left ventricular pressure (Scisense FT111B Ultra-Miniature Pressure Catheter recommended), apical force (using the built-in pulley system in combination with an Isometric Force Transducer), cardiac output and coronary flow (Transonics Flow Meter recommended), as well as surface fluorescence, luminescence and absorption.

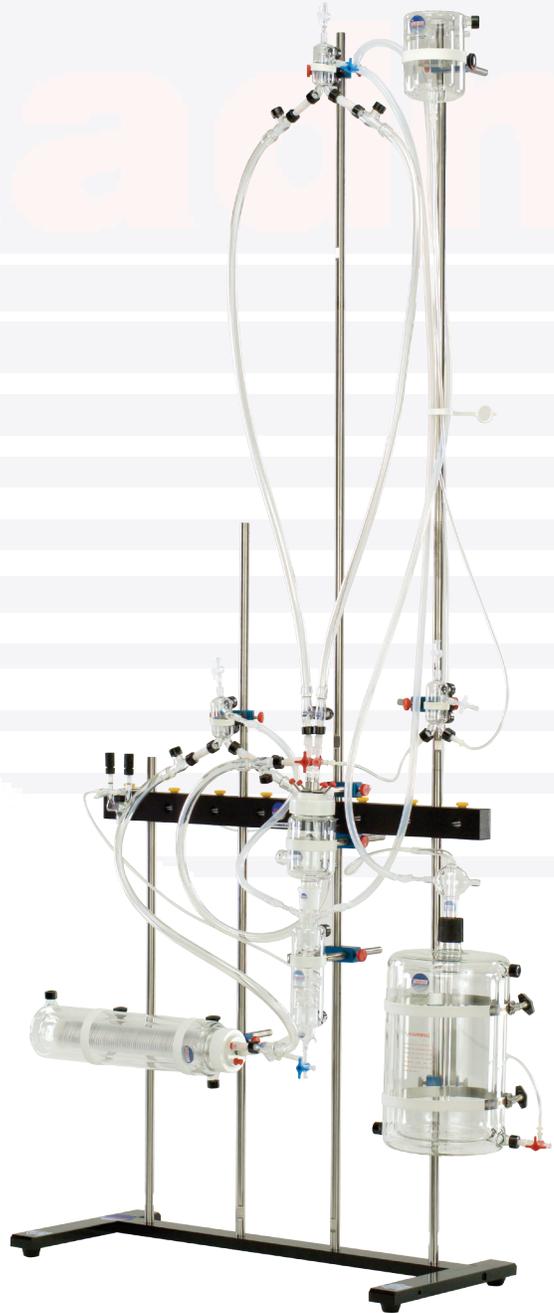
This version of the working heart system uses a peristaltic pump to generate the hydrostatic head (60mm Hg nominal, adjustable) for the constant pressure Langendorff preparation that initially sustains the heart. Perfusate is drawn from the water jacketed reservoir, routed through the atrial bubble trap and diverted up to the aortic bubble trap at the atrial cannula. After the heart has stabilized, the researcher changes the state of the 3-way valve at the atrial cannula to switch from retrograde to working heart mode by directing perfusate into the left atria under hydrostatic pressure (5 mm Hg nominal, adjustable). The perfusate then enters the left ventricle and is pumped by the heart against an adjustable pressure head set by the researcher. After load may be adjusted on the aortic line to vary resistance by incorporating the supplied compliance loop on the aortic side during working heart mode. Buffer may be directed to waste following the compliance loop or directed to the 130144 Sheet Membrane Oxygenating chamber for re-gassing and returned to the heart. At this point the main 2-liter buffer reservoir supply may be omitted from the circuit and a nominal fixed volume (set by the researcher) re-circulated through the system.

The benefit of a pump fed compliance chamber used to generate the constant pressure Langendorff is that the researcher does not have to reposition elevated supply reservoirs. The heart chamber, components, and key perfusate lines are water-jacketed for superb temperature control.

The system may be purchased with or without data acquisition packages depending on your current laboratory needs. Also available in a No-Pump configuration 130101EZ-NP for users with access to existing equipment.

As with all Radnoti systems the, modular design allows for extreme flexibility and system reconfigurations.

The system ships complete with assembly manual and interactive basic principals of operation CD.



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