

Radnoti

Radnoti Liver/Kidney System:

#130003

The isolated perfused liver and isolated perfused kidney models are reliable standards for studies in pharmacology. The donor animal in most of these studies has been the rat but recent interest has centered around the use of the mouse model. Radnoti provides chambers suited for both mice and rats, for both the in situ studies (chamber sold separately), where the liver is cannulated in the animal and the in vitro studies, where the liver is removed from the donor. The Radnoti system can be used in constant pressure or constant flow, re-circulating or non-re-circulating experimental protocols.

The in situ liver chamber is a flat bottomed, water-jacketed curved glass bed upon which the donor is placed. Access ports are provided for catheters, and cannulae. The chamber is covered and has a port in the lid that permits a fiber optic cable to be positioned over the liver.

The Radnoti in vitro liver/kidney chamber is water-jacketed and circular with a glass lid assembly. The chamber is flat bottomed with a side mounted drain. Three ports permit the introduction of two cannulae for organ perfusion and one for the removal of bile samples. Flexible inlet and outlet lines are attached to luer hubbed, paired stainless steel cannulae that are provided for mounting the liver or kidney. The lid of the chamber has a central threaded mount for the attachment of a fiber optic cable, used for optical measurements of endogenous nucleotides or various fluorescent indicators.

With the exception of the liver chambers, the primary support components of the system are mounted on a sturdy, adjustable four bar stand. The support components consist of a membrane oxygenator, reservoirs, cannula line holders, perfusate, gas and water lines, bubble traps and manifolds for water, gas and perfusate control. Perfusate lines are water jacketed to maintain perfusate temperature. Special, compact water jacketed inlet and outlet cannula line holders are each configured to hold up to three optional electrodes (for example, an oxygen, pH and ion selective electrode), a septum covered sampling port and an access port for attachment to a pressure transducer. Individual or differential pressure transducers are available for this system. Perfusate is gassed via a membrane oxygenator for solutions containing proteins or blood, with two water-jacketed supply reservoirs provided. A double-headed peristaltic pump is provided for re-circulation of solutions and to maintain a constant pressure head or flow. Recirculation is accomplished through a bubble trap to reduce endothelial damage caused by large gas bubbles. Perfusate solutions can be rapidly changed via manual valves. A heavy duty re-circulating, constant temperature bath provides temperature control.

Optional components:

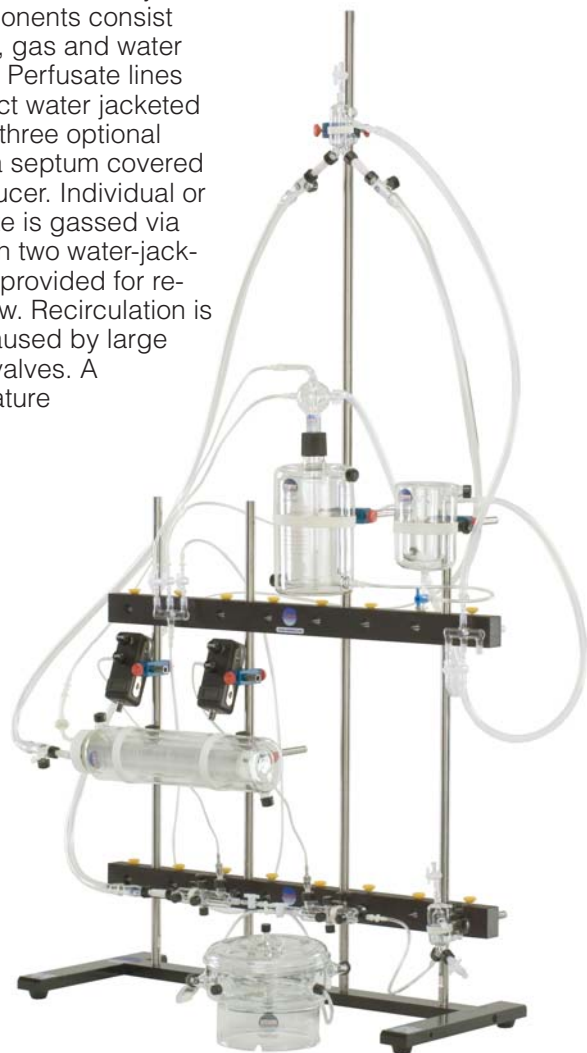
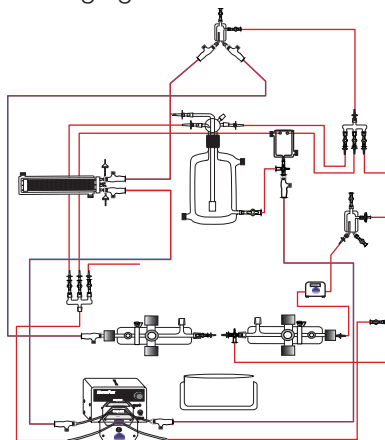
Inline automated or manual flow meter. (used for flow measurements in constant pressure experiments)

Fraction collector, used for effluent sampling.

Automated control valves, used for exchanging solutions.

A syringe pump, used for drug additions and titrations.

Oxygenation, pH and ion selective electrodes with amplifiers.



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