

Model 2907 Solvent Saver

Over 1000 installations in total cannot be wrong!

HOW IT WORKS

The Jour Model 2907 Solvent Saver decreases isocratic HPLC mobile phase consumption by recycling uncontaminated mobile phase back to the solvent reservoir. Contaminated solvents are diverted to waste. Recycling is accomplished by placing an electrically actuated two position spring loaded valve immediately downstream from the system's detector. In response to a signal from the Control Module, the valve directs effluent from the detector either back to the mobile phase reservoir or to a waste container. A schematic diagram of the system is shown in the Figure.

The valve's position (Waste or Recycle) is set based on the signal coming from the detector. When the detector signal deviates from zero (indicating the presence of a peak or contaminant) the valve switches to the Waste position. When the detector signal is at zero (indicating the presence of mobile phase only) the valve switches to the Recycle

position sending clean mobile phase into the reservoir for reuse.

Two user-selectable parameters determine exactly when solvent is recycled. The Threshold value (a percent of the full-scale detector range) determines when a deviation from zero is considered a contaminant. Whenever the detector signal exceeds the Threshold value, the valve is set to the Waste position and detector effluent is diverted to waste. The valve returns to the Recycle position after the detector signal falls below the Threshold value. To account for tailing peaks and plumbing between the detector and the valve, a second parameter, Delay Time, may be used to hold the valve in the Waste position for up to 60 seconds after the detector signal drops below the Threshold value.

The chromatogram in Figure 2A and 2B shows how these parameters are used to recycle solvent for

a typical application. In this case, the Threshold value is set at 1% and Delay Time is set at 20 seconds. Note how the Delay Time is used to divert the tailing portion of peak #3 to waste, even though the detector signal during the tail is below Threshold value. In this particular case, approximately 75% of the mobile phase is recycled.

An additional feature of the Mod 2907 is that it is now totally microprocessor based with software written exclusively for HPLC solvent recycling.

Furthermore the instrument has the capability of storing up to 10 methods. Individual method parameters include: type of detector - input ranges - threshold - delay time etc.

The instrument is also fitted with a unique universal power supply that will operate from any line voltage of 90 VAC to 240 VAC, 50 or 60 Hz without even selecting line voltage - Just plug it in!

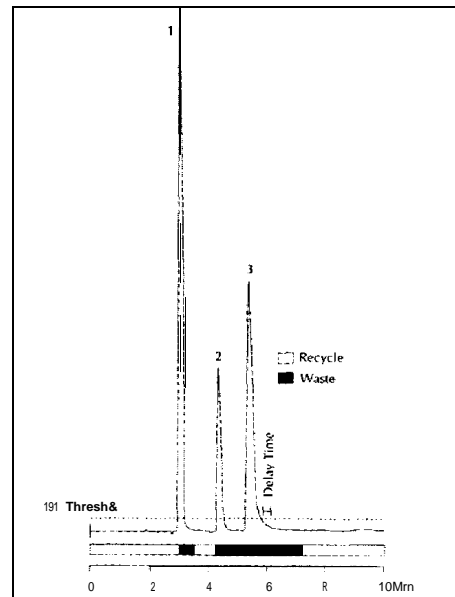


Figure 2A - The Recycled and Waste Portions in a Chromatogram with DETECTOR TYPE set to divert Positive Peaks only (+1 to Waste).

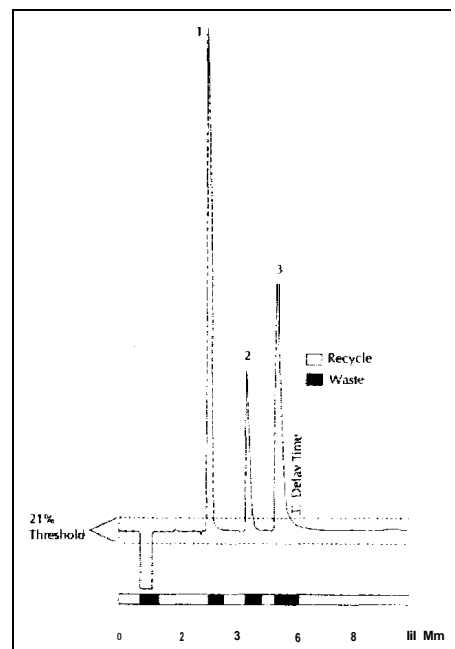
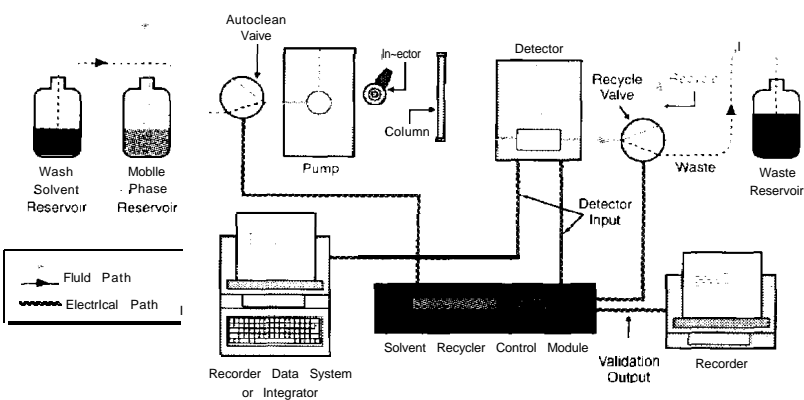


Figure 26 - The Recycled and Waste Portions in a Chromatogram with DETECTOR TYPE set to Divert Both Positive and Negative Peaks (+1 to Waste).

Figure 1 - The Solvent Recycler is composed of a control module, a Recycle Valve, and an optional Auto Clean" Valve. The Recycle Valve is installed downstream from the detector. The Auto Clean" Valve is installed upstream from the pump. Both valve positions are regulated by our exclusive recycling software. The Validation Output is sent to a secondary recording device for a separate data trail of Recycle Valve position.



NEW JOUR MOD 2907 SOLVENT SAVER

Part No.	Description
2907	Jour Model 2907 Solvent Saver complete with fittings and tubing 90-240 VAC - 50/60 HZ
2908	Jour Model 2907, as above with Auto-Clean" Accessory Kit
9000-0717	Jour Auto-Clean", Accessory Kit only

