



Post-column Reactor Model CRX400

The CRX400 post-column Reactor is designed for use with standard liquid chromatography equipment. A popular application of the Reactor employs Ninhydrin reagent in the analysis of both primary and secondary amines. For this method the combined eluent/reagent flow through the Reactor is controlled at 130° C.

Available reaction coil volumes are 0.15 mL, 0.5 mL, 1.0 mL, 1.4 mL and 3.0 mL.

Custom reaction coil volumes may be ordered to suit your particular application. For example, a method for Cholesterol specifies a dwell volume of 2.8 mL at a combined eluent/reagent flow rate of 0.35 mL per minute, with the reactor controlling at 40° C.

The reaction coil is made of precision-bore, heavy wall Teflon tubing wound on an aluminum spool, with the heater in the center. The coil is wrapped with aluminum foil over RTV to restrict oxygen permeation through the Teflon tubing. (For reactor volumes greater than 1.4 mL, a knitted teflon capillary is placed in a heated cup filled with ceramic beads.)

The heavy-wall tubing is intended to withstand high inlet pressures. This is particularly important when volatile or semi-volatile eluents are subjected to elevated temperatures through the Reactor. We recommend the installation of a back-pressure regulator at the outlet of the detector to prevent bubble formation in the detector flow cell due to boiling.

Failure of the reaction coil is usually the result of blockage. For example, an over-tightened tubing ferrule, particulate fouling, or a blockage downstream of the reactor can raise the inlet pressure above the bursting point of the coil. Often a blockage can be removed with an appropriate solvent.

To prevent reactor damage we suggest the installation of a pressure-relief valve on the reagent feed line, immediately before the mixing tee. The relief valve is useful because it can be set to open at a pressure below the reactor burst pressure.

For Continuous Post-column Derivatization in Liquid Chromatography

Replacement or substitution of a reaction coil is easily accomplished in the laboratory. Reactor Heated and Coil Assemblies are insulated, self-contained units, comprising the reactor coil with inlet and outlet tubing and fittings, and heater with electrical connection. The 240-volt version has been CE tested and certified.

Specifications

- Temperature settings range from 5° C above ambient to 130° C.
- Set temperature is maintained at $\pm 0.4^\circ$ C within control range.
- Reaction coil withstands up to 42 bar (600 psi) inlet pressure at 130°c.
- 120 or 240-volt configuration, 50/60 Hz
- Dimensions: (cm) 12w x 14h x 28.5L
- Shipping weight: 2 kg

