
AMD2000

Automatic Microdilutor

Introduction

The AMD2000 is a novel dilution system for use with many types of chemical analysis.

Concentrated samples often require dilution to bring them within an analyser's range. Manual dilution is error-prone and time-consuming, but automatic dilution can introduce delays and complications. This is because it has previously relied on a type of dilution in which the specimen is mixed with diluent to form a further sample. The patented design of the AMD2000 provides true in-line dilution without the creation of a secondary sample.

The AMD2000 consists of the following: -

- *Flow injection valve* set either to fill or inject
- *Sampling loop* connected to the injection valve
- *Peristaltic pump* for pumping diluent
- *Syringe* driven by a stepper motor
- *Syringe valve* for connecting to diluent or chemistry
- *Sampling valve* alternating calibrant and sample
- *Microcontroller* with keypad, display and serial port

Features

- *Automatic calibration from single stock standard*
- *Easy to use, true in-line dilutor*
- *Processes up to 500 samples in a single batch*
- *Capacity for 200 dilutions from a library of over 30*
- *Unlimited number of blanks and washes*
- *Three decades of dilution*
- *Increased accuracy and precision*
- *Saves time preparing standards and samples*
- *Increases sampling capacity*
- *Manual operation or computer control*
- *Simple control language*
- *Can be fitted to most existing systems*

Uses

The dilutor can be used with any type of analyser that employs a liquid flow - FIA, ICP, flame photometry, ion selective electrodes etc. The AMD can operate as a stand alone unit, via digital stepping or under full computer control as part of a larger system.



Operation

The dilutor depends upon injecting sample at a variable, but accurately controlled rate into a stream of diluent. The secret of the device's success lies in the patented injection valve that virtually eliminates carry over. The AMD has a keypad, an alphanumeric liquid crystal display and an RS232 port for connection to a PC or thermal printer. In manual mode it is operated using a system of menus selected via the keypad and will function with different types of automatic sampler.

To simplify operation, the AMD is preprogrammed by the user with a template of dilutions and samples from which each run is derived. Additional dilutions are then simply added to the list, as and when required.

Specification

Standard Dilutions: Library of 30 covering three decades

Capacity: Up to 200 dilutions within 500 samples

Sample Volume: 0.2 to 2.0 ml

Dilution: Three decades

Keypad: 16-key keypad

Display: Standard 2-line 16 column liquid crystal

Communication: Serial port for connection to PC

Multitasking: Active keypad and serial port at all times