

# AMD2000

## AUTOMATIC MICRODILUTOR AND SAMPLE PREPARATION UNIT



### 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.

### Introduction

The latest development from Burkard Scientific is an automatic in-line dilutor and sample preparation unit. This has been designed for use with Burkard's range of segmented flow and flow injection analysers and can operate as a stand alone unit or under computer control as part of a larger system.

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.

### Uses

The dilutor can be used with any type of analyser that employs a liquid flow – SFA, FIA, ICP, flame photometry, ion selective electrodes etc. The AMD2000 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 AMD2000 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 AMD2000 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. This is stored in non-volatile memory and is therefore not lost when the power is turned off.

The dilutor can be connected to the 80+ (or S140) sequential sampler which can be 'stepped' through the sampling sequence or it can be used with Burkard's XYZ random access sampler for analysis and re-dilution. Burkard's MicroStream for Windows software package operates the dilutor automatically from a PC serial port.

### Automatic dilution and standards preparation

Combining AMD2000 with the automatic system switch on/off capability of the Series 2000 systems allows overnight unattended running to be significantly extended. The AMD2000 automatic dilutor and standards preparation unit will automatically create a range of standards from a single working standard as well as create all drift and blank controls. This leaves the sampler holding just the unknown samples as there is no need to occupy cup positions with standards, drift controls and blanks.

This combination increases the capacity to 80 or 140 actual samples as well as providing the automatic dilution of samples known to be overrange by a factor of up to 1:500.

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.

### 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

### Ordering Information

Product Code	Description
BS02482	AMD2000 Microdilutor Unit

The AMD2000 is available as an OEM option for other instruments manufacturers needing high capacity sampling with automatic standardisation. The company reserves the right to make changes to the specification without notice.

