

# PAX 100-3

## AUTOMATIC MICRO-DISPENSING SYSTEM



- Precision & reproducibility
- Compact dispensing module
- Versatile system control
- Variable speed & interval
- Direct aliquot selection in  $\mu$ l
- Count up/down display
- Optional syringe capacities

### Introduction

The PAX 100-3 Microapplicator is exclusively manufactured by Burkard Scientific at Uxbridge, UK and is widely used in laboratory research and chemical screening. Examples include the application of contact insecticides to individual insects; contact fungicides to leaves prior to the arrival of fungal spores; systemic insecticides and fungicides to leaves for foliar uptake prior to action; adjuvants (surfactants and stickers) to detached leaves for wettability and tenacity studies; precise injection techniques.

Application by syringe usefully simulates field-spraying techniques. Field spraying may not be environmentally acceptable; impracticable if the chemicals are radio-labelled or the crops on which they are tested are genetically modified; out-of-season or just too expensive to operate. Application of chemicals to detached leaves and/or insects is one of the most popular uses for the PAX 100-3. Leaves and/or insects are displayed in Petri dishes with the syringe unit mounted horizontally on the base. The droplet of chemical in solution, which is formed on the tip of the needle, is detached and transferred by gently touching the surface of the leaf or insect to be treated. Angled cannulae with or without Teflon coating and in a range of sizes are supplied by Burkard Scientific to assist this.

Dispensing of solution onto large numbers of whole plants, often required in greenhouse based evaluation, is difficult to manipulate and manage. For this purpose, Burkard Scientific supplies a universal retort stand so that the operator can conveniently raise the height of the needle tip, with the foot switch permitting 'hands-free' operation. A ring and finger switch is supplied as an option.

Standard 1ml and 10ml all-glass syringes are recommended for direct selection of  $\mu$ l volumes from the controller. When researchers need to dispense smaller aliquots (below 0.1 $\mu$ l), or with syringe capacities having plunger sizes not proportional to 1ml or 10ml (most likely microlitre syringes of 10 $\mu$ l up to 100 $\mu$ l capacity), the system can be

calibrated using 0.2 $\mu$ l as equivalent to 4.2 $\mu$ l on the PAX control. Standard cannulae sizes are 25g x 25mm and 29g or 30g x 25mm with Luer fitting. Microlitre syringes have fixed or removable needles that can be Teflon coated to reduce the effect of surface tension. Micrometer and syringe adapters are available for all types of syringe for automatic refill in situ.

The PAX 100-3 is a highly versatile instrument and as such can be used for the widest range of applications. Burkard Scientific will provide detailed changes to the standard PAX 100-3 to purchasers requiring custom-design for specific applications.

### Features

- Mains indicator lamp to confirm that power is applied
- Run indicator lamp that is only illuminated when the micrometer is in motion
- Aliquot counter to confirm the total number aliquots dispensed and which flashes on completion
- Single digit speed switch (0-9 positions) for the most convenient delivery speed.
- Set Volume Switch for selection of aliquot volume in microlitres.
- Auto repeat switch for continuous interval dispensing of the same volume
- Count Up/Down switch to set counter direction to increment or decrement
- Rewind button. Single touch, continuous operation control to bring the micrometer into the correct position for dispensing to begin
- Forward button. Single touch, continuous operation control to 'inch' the micrometer to the syringe plunger. Keep depressed for fast forward motion
- Dispensing button to deliver set volume when not using foot operated switch
- Stop button to interrupt the dispensing cycle
- Reset button which resets counter display to zero

### Specification

Aliquot range with standard 1ml syringe	0.1 $\mu$ l - 700 $\mu$ l
All glass syringe (standard) capacity	1ml
Optional syringe capacities	10 $\mu$ l, 50 $\mu$ l, 250 $\mu$ l, 10 $\mu$ l
Dispensing speeds	9
Applicator dimensions	369mm x 156mm x 89mm
Control unit dimensions	700mm x 235mm x 150mm
Total weight	7.5Kg
Supply Voltage	110/240V, 50/60Hz

### Ordering Information

Product Code	Description
BS00278	PAX 100-3
BS01062	1cc all glass syringe
BS01061	10cc all glass syringe

The company reserves the right to make changes to the specification without notice. Other products in the range include the manual operated hand applicator and the precision micrometer syringe unit. For full details contact Burkard Agronomics Instrument Sales section.

