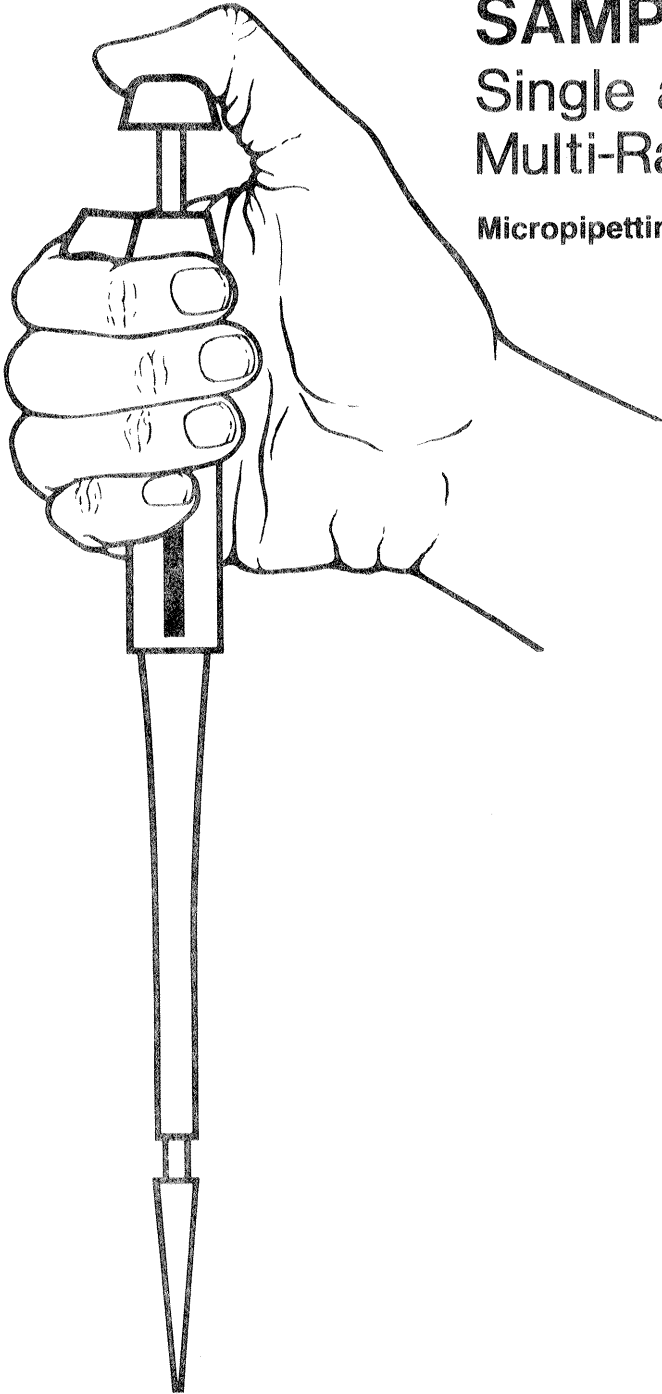


OXFORD[®]
SAMPLER[®]
Single and
Multi-Range
Micropipetting Systems



USE

The Oxford[®] SAMPLER[®] Micropipetting Instrument is a general purpose, hand-held instrument used to dispense specific volumes of various liquids used in clinical and chemical laboratories. The system consists of a pipetting instrument, a maintenance kit (including spare O-rings, lubricant and a cleaning wire), and detailed operating instructions. The system uses a specially designed, precision-molded, non-wettable, disposable plastic tip; this feature eliminates pipette cleaning, the danger of cross-contamination, and error due to variations in technique.

INSTALLATION PROCEDURES

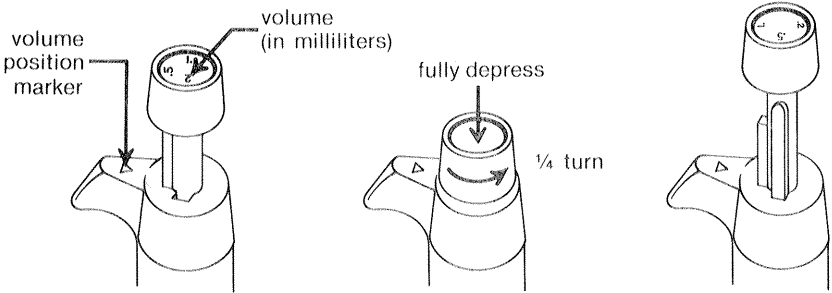
The system is ready to operate as received and requires no special installation procedures.

PRINCIPLE OF OPERATION

The Oxford® SAMPLER® Instrument is designed to operate as a "TO DELIVER" device in which a plunger movement replaces air in a plastic tip with a set amount of fluid. The fluid containment tip consists of a plastic material which resists buildup of inner surface film far better than glass. The total discharge of the instrument's volume is aided by the use of a secondary range. This effectively lengthens the travel of the piston during discharge and encourages the removal of trace amounts of solution which may cling to the tip's bore.

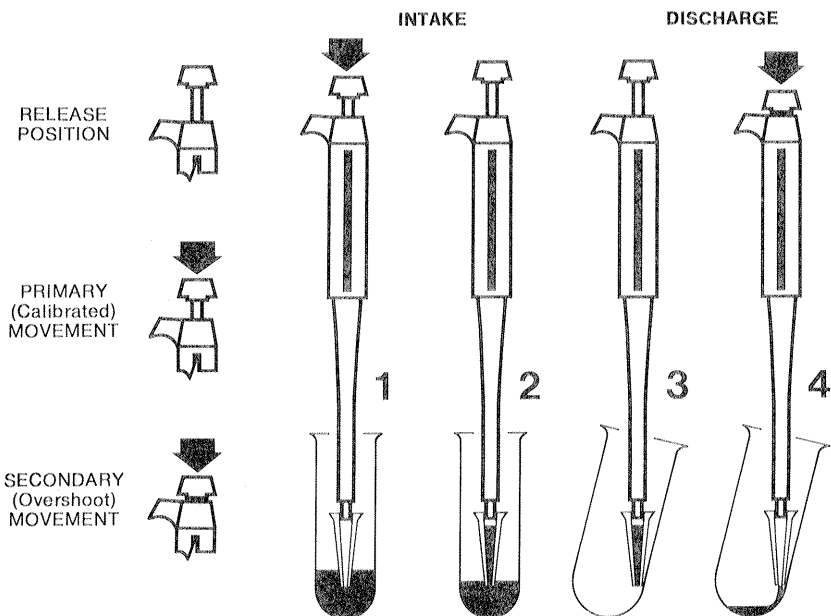
The user should first become acquainted with the feel of the instrument's compound movement. Normally, the body of the instrument is held in the hand and the plunger knob is operated with the thumb. As the knob is depressed, a stop is encountered; this first depression of the knob is the primary or calibrated movement. Now, with additional pressure, the plunger knob may be depressed to its lowest position, directly against the upper body. This travel beyond the calibrated range is the secondary or "overshoot" movement.

The Oxford® Multi-Range SAMPLER® Instrument is equipped with two, or three calibrated volumes; a volume is chosen by positioning the plunger handle so that the desired volume marking (indicated in milliliters) lies adjacent to the volume position marker. Volume changes are made by fully depressing the plunger knob to its lowest position and rotating to the desired quadrant. The volume position marker always points to the volume in use.



OPERATING INSTRUCTIONS

1. Initially before each day's use, vigorously operate the plunger handle approximately ten times. This will redistribute the lubricant and ensure a smooth, positive action.
2. Apply a clean tip to the instrument.
3. Depress the plunger knob to the first stop before entry into the sample solution.
4. Now immerse the tip approximately $\frac{1}{8}$ inch into the sample solution (Figure 1).
5. Smoothly return the plunger knob to the release position, allowing sample to enter tip (Figure 2).
6. Remove tip from sample solution and wipe with lint-free material, being careful not to touch the opening.
7. Place tip against side wall of receiving vessel (Figure 3).
8. Smoothly depress plunger knob to the first stop, pause, then depress the knob to the second and lowest position (Figure 4).
9. With the knob still held in its lowest position, slowly withdraw the tip, sliding against the wall of the receiving vessel.
10. Return knob to the release position and remove the used tip.



AIDS TO REPRODUCIBILITY

Listed below are some techniques found to improve sampling precision. READ THIS SECTION CAREFULLY.

1. Try to effect the same speed of intake and delivery for all samples. Smooth depression and release of the plunger knob will give the most consistent results. Never allow the plunger to "snap" back.
2. Always depress the plunger knob to the first stop (Figure 1) before insertion of the tip into the solution. Depression of the plunger knob after insertion may cause the formation of an air bubble on the tip and result in a filling error.
3. Try to insert the tip approximately the same depth into the sample each time, never going deeper than 1/4 inch. Hold the instrument as vertically as possible.
4. When sampling hot or cold material, the tip's temperature should be equalized to that of the solution to prevent contraction or expansion of the sample.
5. If, for any reason, an air bubble appears within the tip during intake, return the fluid, discard the tip and repeat the sampling process.
6. Always keep the lower section firmly screwed into the top section.

AID TO ACCURACY

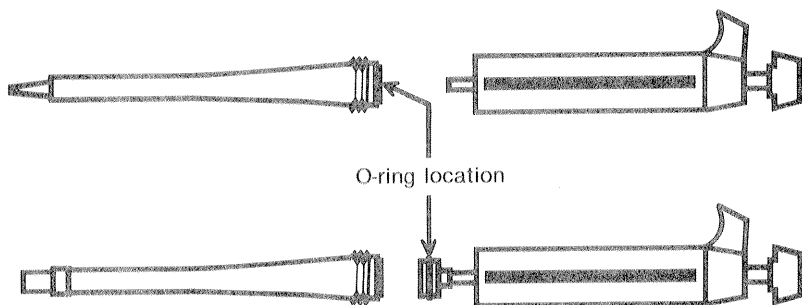
Better accuracy and precision will be obtained if Oxford® Disposable Sampler® Tips are used (see ORDERING INFORMATION).

SERVICE AND MAINTENANCE INFORMATION

It is recommended that the instrument be cleaned whenever the plunger feels sluggish. This should include cleaning of the cylinder wall, the O-ring seat and the piston of all deposits and old lubricant. Relubricate the O-ring by working a small amount of lubricant well into the mounting groove.

If fluid is accidentally drawn inside of the instrument, it should be disassembled; the piston, O-ring, and the small bore tubing connecting the piston area to the tip outlet should be cleaned and dried, preferably by blowing out with air. If any fluid has dried in the connecting tubing's bore, it may be cleaned by inserting the cleaning wire (provided in the maintenance kit) through its length.

The O-ring must be replaced every three to six months. A maintenance kit is available which contains new O-rings, a cleaning wire and a tube of lubricant.



WARRANTY INFORMATION

All Oxford SAMPLERS® bear one-year guarantee against defects in material and workmanship. This guarantee becomes effective when the ultimate user receives the product. If within this one-year period the instrument is found to have such defects, repair or replacement will be made without charge by Oxford Labware (transportation to the point of repair to be assumed by the purchaser).

Should damage to the instrument occur due to improper use, this guarantee written or implied is void.

Instrument Out-of-Warranty—Return the instrument to Oxford Labware. For a nominal charge, the customer requesting replacement will receive a new instrument with a new one-year guarantee.

In-Warranty and Out-of-Warranty Returns (U.S. and Canada):

Instruments returned without prior authorization will not be accepted. For return authorization contact Oxford Labware's Product Assurance Department at: (800) 325-8668.

International Customers—All in-warranty claims as well as out-of-warranty repairs and replacements must be handled by the dealer from whom the instrument was purchased.

ORDERING INFORMATION

For Technical Service call: (800) 325-8668. In Missouri: (314) 731-1500.

OXFORD® SAMPLER®
Micropipetting Systems

SINGLE RANGE INSTRUMENTS

PRODUCT NO.	SIZE	USE WITH TIPS	MAINTENANCE KIT
8885-801004	10µL	8885-081003, 8885-081177* White	8885-858806
8885-802002	20µL		8885-858806
8885-802507	25µL		8885-858806
8885-805005	50µL	8885-081003, 8885-081177* White	8885-858806
8885-810005	100µL		8885-868805
8885-820004	200µL		8885-868805
8885-825003	250µL	8885-091143, 8885-091341* Blue 8885-091127†	8885-848807
8885-830003	300µL		8885-848807
8885-850001	500µL		8885-848807
8885-800105	1000µL		8885-848807

DUAL RANGE INSTRUMENTS

PRODUCT NO.	SIZE	USE WITH TIPS	MAINTENANCE KIT
8885-801103	10, 25µL	8885-081003, 8885-081177* White	8885-898802
8885-800303	20, 50µL		8885-868805
8885-800402	50, 100µL		8885-868805
8885-800501	100, 200µL		8885-868805
8885-800709	200, 500µL	8885-091143, 8885-091341* Blue 8885-901127†	8885-848807
8885-800204	300,1000µL		8885-848807
8885-800808	500,1000µL		8885-848807

TRIPLE RANGE INSTRUMENTS

PRODUCT NO.	SIZE	USE WITH TIPS	MAINTENANCE KIT
8885-800006	20, 50, 100µL	8885-081003, 8885-081177* White	8885-899909
8885-800014	25, 50, 100µL		8885-899909
8885-800600	50,100 200µL		8885-868805
8885-800907	200,500,1000µL	8885-091143, 8885-091341* Blue 8885-091127†	8885-848807
8885-801202	100,300, 500µL		8885-838808

DUPLICATE DISPENSING INSTRUMENT

PRODUCT NO.	SIZE	USE WITH TIPS
8885-810013	100µL/100µL	8885-091044, 8885-091333* White 8885-091028†

8885-080013 . . . **Plexiglass Rack** - holds six pipettes
 8885-080005 . . . **Pipetting Center** - holds seven pipettes plus tray of tips

FOR TIPS PACKED OTHER THAN 1000 PER BAG:

*—Organized Tray
 †—Sterile, Individually Wrapped

Note: Older instruments use 8885-081102 (bulk) yellow tips and their barrels have a yellow color band.

MANUFACTURED BY



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