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TECHNICAL INFORMATION

Catalog Number: 802510
Variable Volume Dispenser

OPERATING INSTRUCTIONS

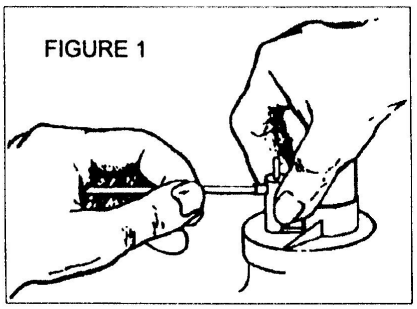
14.9 mL Capacity

INSPECTION

Remove the Dispenser from its carton and examine for any shipping damage. Any defect should be reported to the supplier of the Dispenser. Included with the Dispenser is the outlet tubing with sealing camp and instructions.

INSTALLATION OF OUTLET TUBING

To install, firmly push the tubing into the small opening in the upper valve outlet. SUPPORT THE VALVE AS SHOWN IN FIGURE 1 DURING THIS OPERATION.



SPECIFICATIONS

*Dispensing Range:*1 to 14.9 mL in factory calibrated increments of 0.1 mL.

*Accuracy and Precision:*3 to 14.9 mL±0.5%; 1to3mL±1%

Autoclavable: to 120ºC.

Only glass, Platinum-irridium, Halar® and ceramic in contact with reagent.

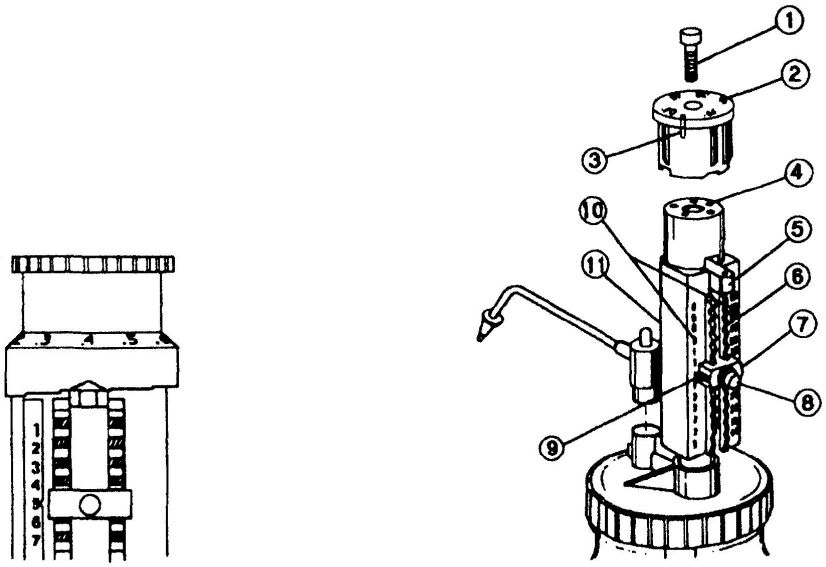
REAGENT USE RECOMMENDATION

Most common chemicals and reagents, except HF.

INITIAL SET-UP AND PRIMING

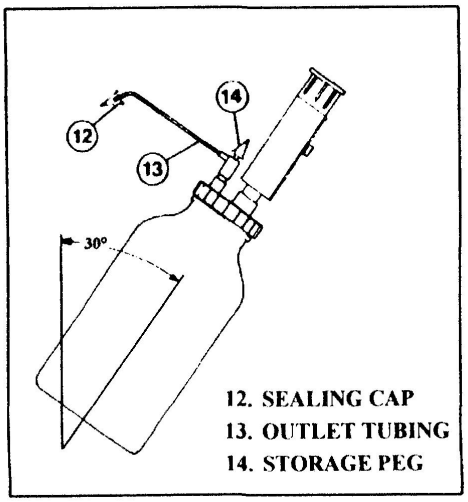
Refer to Figures 2 and 3. Remove the SEALING CAP (12) from the OUTLET TUBING (13) and place it on the STORAGE PEG (14) located on the outlet valve. Tilt the Dispenser backwards as shown in Figure 3, and gently raise and lower the PLUNGER ASSEMBLY (11). Repeat until the outlet tubing is fully charged with reagent and no air bubbles are noted. Finally adjust the MAJOR AND VERNIER SCALE SELECTORS TO THE DESIRED VOLUMES.

Figure 2



1. Vernier Locking Knob
2. Vernier Scale Selector
3. Positioning Pin
4. Positioning Holes
5. Calibration Stop
6. Major Scale Positioning Teeth
7. Major Scale Selector
8. Major Scale Selector Locking Knob
9. Major Scale Position Marker
10. Major Scale
11. Plunger Assembly

Figure 3



ADJUSTING THE DISPENSER

The Dispenser VOLUME SELECTION SYSTEM features 140 preset volume positions which are comprised of two separate adjustments. A) The MAJOR SCALE SELECTOR (8) which selects the dispensed volume is the sum of these two adjustments.

MAJOR SCALE VOLUME SELECTION

To position the MAJOR SCALE SELECTOR first loosen the LOCKING KNOB (8) 2-1/2 turns. Lift the MAJOR SCALE SELECTOR form its engagement with the MAJOR SCALE POSITIONING TEETH (6). Move the SELECTOR to a position that aligns the MAJOR SCALE POSITION MARKER (9) directly next to the desired volume on the MAJOR SCALE (10) Re-tighten the locking knob firmly, but do not over tighten.

VERNIER SCALE VOLUME SELECTION

Loosen the VERNIER LOCKING KNOB (1) 2-1/2 turns, Lift the VERNIER SCALE (2). This will allow the POSITIONING PIN (3), located on the VERNIER SCALE, to disengage from the POSITIONING HOLES (4), located in the PLUNGER ASSEMBLY (11). While lifting, rotate the VERNIER SCALE until the desired volume is directly over the CALIBRATION STOP (5). Carefully re-engage, the VERNIER SCALE POSITIONING PIN. When properly engaged, the VERNIER SCALE will not rotate. Gently retighten the place the scale number directly over, and in line, with the CALIBRATION STOP. Figue 2 illustrates the proper positioning for a volume of 5.4mL.

DISPENSING

Caution - REMOVE DELIVERY TUBING SEALING CAP BEFORE OPERATING PLUNGER. Position the receiving container

under the outlet tubing, then gently raise the PLUNGER ASSEMBLY until it stops. Pause, then gently push down until the plunger bottoms. Touch off any partil drop remaining on the outlet tubing against the receiving container.
The highest levels of precision are attained with slow and consistent stroking. Excessive or wide variations in delivery rates will lower reproducibility. In periods of disuse, recap the outlet tubing to prevent reagent withdrawal. If reagent is withdrawn, restore to a fully filled state before dispensing.

DISPENSER CALIBRATION

All dispensers are factory calibrated. More "fine tuning" is possible for maximum performance using our unique Calibration Procedure.

– Set Dispenser to desired volume and properly prime as per instruction.
– Deliver and record at least 10 dispensings using a proper analytical balance*, and derive an average dispensing volume.
– Using an Allen Type Wrench, rotate the screw located in the Calibration Stop (refer to Fig. 1) to increase or decrease the stroke by amounts listed in Fig. 2.

Clockwise rotation will decrease volume, and counter-clockwise will increase volume.

***EXAMPLE:** Recommended Scales: Volumes under 3 mL-scale with at least 0.001 grams sensitivity.

Figure 4

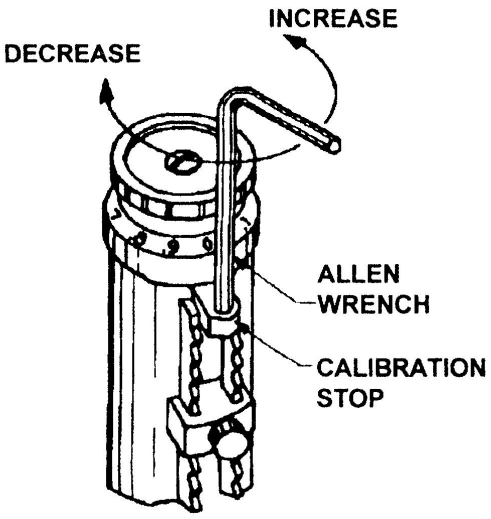


Figure 5

(14.9 mL)
1/4 turn = 63 uL
1/2 turn = 125 uL
3/4 turn = 187 uL
Full turn = 250 uL

CLEANING

For cleaning purposes the PLUNGER ASSEMBLY may be removed from the Dispenser by slipping the MAJOR SCALE SELECTOR out of its engagement track. CAUTION: Because of the very close tolerances in the glass syringe portion of the Dispenser, care must be take in the re-engagement of the PLUNGER ASSEMBLY to the Dispenser to prevent binding or breakage.

AUTOCLAVING

The Dispenser may be autoclaved at temperatures not exceeding 250ºF. It is recommended that the vernier locking screw be loosened several turns to allow for heat expansion. Retighten on completion.