

DRUMMOND series 500 DIGITAL

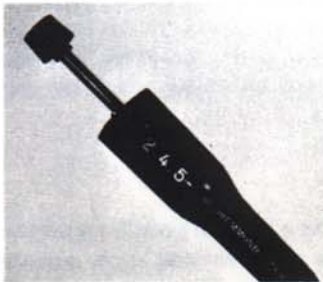
MICRODISPENSER

Pat. No. 3-606-086 and other Pat. Pending

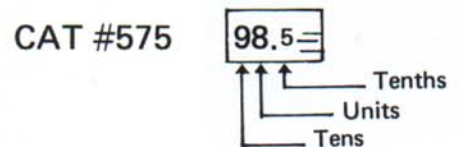
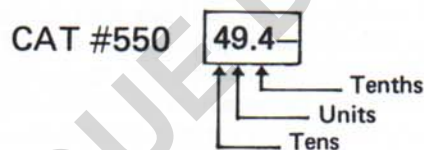
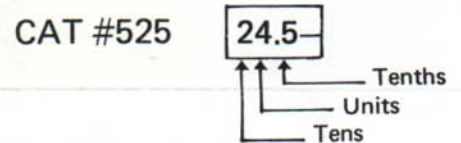
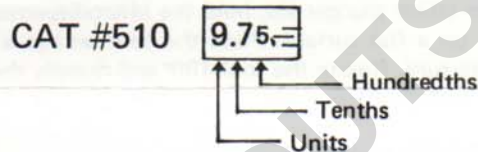
Thank you . . . for purchasing a Drummond Digital Microdispenser. This instruction sheet will help you operate and maintain your microdispenser. Sample deliveries with a $\pm 1\%$ full scale volumetric tolerance are assured through the use of Drummond Precision Glass Bores. Units covered by this instruction sheet are as follows:

CATALOG NO.	OVERALL CAPACITY	RECOMMENDED RANGE	REPL. GLASS CATALOG NO.	GLASS COLOR CODE	PLUNGER TIP
3-000-510	10 μ l	2 – 10 μ l	3-000-210-G	Red	Stainless Steel
3-000-525	25 μ l	5 – 25 μ l	3-000-225-G	White	SS w/teflon
3-000-550	50 μ l	10 – 50 μ l	3-000-250-G	Green	SS w/teflon
3-000-575	100 μ l	20 – 100 μ l	3-000-275-G	Blue	SS w/teflon

A PRESETTING SAMPLE DELIVERY



Rotate the Plunger Assembly until the desired sample size is registered in the window. A positive lock is provided to prevent the plunger setting from moving during use. To lock turn lever. **CAUTION: DO NOT ATTEMPT TO CHANGE SETTINGS WHILE LOCK IS IN PLACE.**



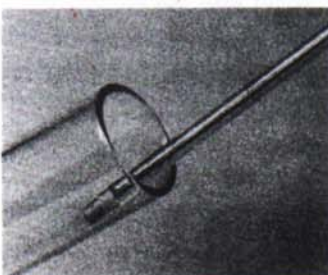
THE MICRODISPENSER PLUNGER WILL SLIDE FREELY IN THE GLASS BORE ONCE IT IS WET.

B SAMPLE COLLECTION



Depress the plunger fully, immerse the bore into the solution and release the plunger slowly. The exterior of the glass bore should be wiped free of any excess sample with a wiper, being careful to avoid drawing any sample from the end of the glass bore.

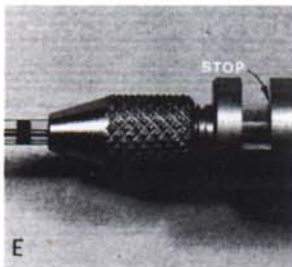
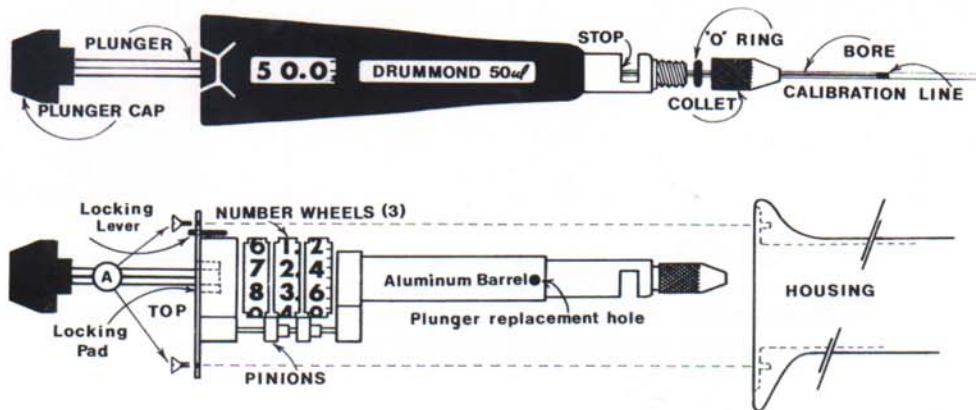
C DELIVERY



Expel the sample by depressing the plunger completely. Touch the tip of the tube to the side of the receiving vessel or swirl the tip in diluent to remove the entire sample.

D STORAGE

For best results, store your Microdispenser with a new unused bore, or without a bore.

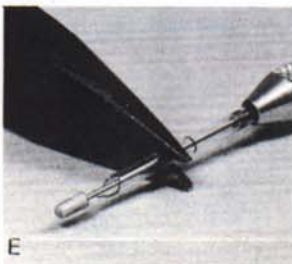


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REPLACEMENT OF PRECISION BORES

To replace the precision bore, loosen the knurled collet and remove the used bore. Slip on the new bore, **making sure that the color coded end is first**. This end of the bore has been fire polished to prevent damage to the teflon tips. The bore must be fully inserted until it rests against the stop in the barrel, then the collet should be tightened. To remove a broken bore, first slide off the broken portion in contact with the teflon tip. **Caution:** do not attempt to slide broken glass over the backside of the tip. Break remaining glass with pliers, etc. **Wear eye protection when breaking glass.**

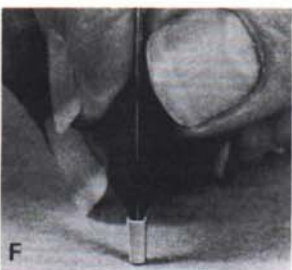


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USE OF THE RESIZING TOOL

To renew the teflon plunger tip, hold the Microdispenser in a vertical position such that the tip rests on a flat surface. Place the tool on the wire as shown and apply a gentle downward pressure. Rotate the tool 180° and reapply the pressure. The extended tip will give like-new performance.

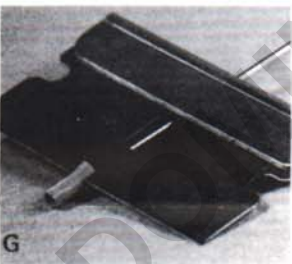


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TEFLON TIP REPLACEMENT

Should the teflon tip become worn or loose after extended use it can be easily replaced by one of the extra tips included with your unit. The old tip can be removed with a sharp knife or a razor blade. Place the new tip into the holding block, then insert the plunger wire into the tip as shown. Be certain to use both hands, one to hold the Microdispenser over the block, the other to steady the wire as pressure is applied to force the tip onto the wire. Recalibrate unit. **"ALWAYS MOISTEN NEW TIP"**

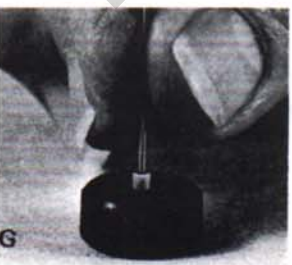


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CALIBRATION

The calibration of the unit can be checked by two methods: with the unit set for maximum capacity, the bottom of the tip should bisect the calibration line printed on the bore; also when the unit is dialed down to zero the tip should be flush with the end of the bore. If the tip extends beyond the end of the pipet, trim it with a razor. If model # 510, with S.S. plunger, follow procedure in Section I.



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PLUNGER REPLACEMENT

To replace the plunger wire, first set the unit to zero capacity; remove two screws securing the top plate to the housing and slide off the housing. The set screws holding the plunger should be aligned with the plunger replacement hole (see line drawing above). Loosen set screws with the Allen wrench, remove plunger. Insert new plunger into a replacement glass bore so that the wire on 10 μ l sizes or the teflon tip on the larger sizes is flush with the end of bore. Insert opposite end through collet into the plunger shaft. Check that the other end of the plunger is still flush with the end of the glass bore, then tighten the plunger set screws and replace the housing. Return the plunger to its maximum capacity and check that the end of the plunger is aligned with the reference mark on the glass bore.

IN CASE OF DIFFICULTY . . .

Please do not hesitate to call us concerning any difficulties that may arise. We maintain a complete selection of parts ready to keep your Microdispensers in service.

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