

# Operation Manual for the Drummond Pipet-Aid® XP Gravity Drain

---

Catalog Number 4-000-102

4-000-202

4-000-202-E



**Quality  
and Reliability  
Guaranteed**

Made in USA  
by



**DRUMMOND**  
SCIENTIFIC COMPANY



**Drummond Scientific Co.**  
500 Parkway  
Broomall, PA 19008  
800/523-7480 • 610/353-0200  
[www.drummondsci.com](http://www.drummondsci.com)

# Operating Instructions for the Drummond

## Statement of Purpose

All Pipet-Aid models are designed to transfer liquids with the use of serological, volumetric and/or blow-out pipets in either glass, plastic or something similar.


## Rules for Safe Operation


- For indoor use only.
- Do not attempt to use the charger with any other product.  
**DO NOT ATTEMPT TO CHARGE THIS UNIT WITH ANY OTHER CHARGERS.**
- This product includes rechargeable Ni-MH batteries. Do not incinerate batteries as they may explode at high temperatures.
- Never operate unit in an explosive atmosphere.
- Expelling liquid from a pipet generates aerosols. The faster the liquid is expelled, the more aerosols are generated. Understand the nature of the liquid being pipetted and take appropriate precautions.
- Do not operate unit with a damaged cord.
- Use charger only in a standard electrical outlet.
- Do not handle charger with wet hands.
- Do not put unit or charger in water or other liquid.
- Pipetting acids or strong alkalis will damage unit.
- When servicing, use only identical Drummond replacement parts.
- Save these instructions.

**If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired. Always use the charger or power supply that is supplied with the unit.**

## Connections to Charger:

Check the charger to see that the line voltage corresponds to the voltage indicated on the mains adapter.

 If the mains adapter supply and the line voltage are not compatible, the electrical components of the Pipet-Aid may be damaged or destroyed.

 Before each use, confirm that the mains adapter cable is not damaged, worn or severely buckled and there are no breaks in the insulating surface. If any damage is noted, do not use the Pipet-Aid until the damaged mains is replaced.

## Specifications for Usage

**This equipment is for indoor use only.**

Temperature Range 10°C–35°C, Maximum Humidity 60%

**For use with pipets from 1 mL to 100 mL**

**FAILURE TO USE THE EQUIPMENT IN ACCORDANCE WITH INSTRUCTIONS OR MODIFYING THE EQUIPMENT WILL VOID WARRANTIES.**

**CAUTION:** CAREFULLY READ THROUGH THIS ENTIRE MANUAL BEFORE USING YOUR NEW PIPET-AID XP. PAY CLOSE ATTENTION TO THE RULES FOR SAFE OPERATION WARNINGS AND CAUTIONS.

# Pipet-Aid® (Model XP Gravity Drain)

## Features

Thank you for purchasing the Drummond Model XP Portable Pipet-Aid® which incorporates several important features:

- A powerful pump designed specifically for Pipet-Aid® use.
- Compact, lightweight design.
- Individual speed controls for both the aspirate and the dispense buttons.
- Designed and constructed with material that will withstand commonly used reagents.
- Nosepiece lock to prevent accidental removal.
- External battery access.

The Drummond Pipet-Aid® XP is covered under the following US Patents, and other foreign patents pending. #5,294,405, #5,214,968, #5,616,871

## Instructions for Use

Insert a pipet into the nosepiece by twisting the pipet while pushing. Exercise extreme caution when using glass pipets as breakage is an ever-present danger. Depressing the top button fills the pipet, depressing the bottom empties it. The flow rate is proportional to the amount the button is depressed.

## Speed Controls and Gravity Drain

These units have a special feature that enables the user to dispense fluid by gravity or by pumping fluid out with pressure.

1. The upper FILL button can be rotated to enable the user to choose 3 speed ranges (“S” slow; “M” medium; “F” Fast). When a range is selected, fine control is obtained by the amount the button is depressed. The farther the button is depressed, the faster the pipet is filled.
2. The lower EMPTY button can also be rotated to enable the user 3 dispensing choices (“S” slow; “M” Medium; “G” Gravity drain). When the empty button is rotated to “G”, the pump will not be activated. The fluid will drain by gravity. If the user would like to “blow out” the residual fluid in the pipet, the pump can be activated by simply holding the lower button in, and simultaneously pressing the FILL button **slightly** until the pump is activated.
3. A unique feature enables the user to select the speed setting on one button independently of the other button. For example, FILL on “F” and EMPTY on “S”.

## Battery

The XP is powered by a nickel-metal hydride rechargeable battery. To get the maximum life from the battery, recharge it overnight as needed. The battery can be replaced by removing the screw marked (B) on the diagram and sliding out the cover (78).

## Filter

The XP incorporates a TISSUE CULTURE NOSEPIECE, which features a unique filter element. The TC filter will cease to pass air in either direction when it becomes wet, alerting the user to possible contamination of the rubber insert. To remove the nosepiece, slide the nosepiece release button (located between the nosepiece and the handle), in the direction of the arrow molded in the handle and rotate the nosepiece counter-clockwise 1/4 turn and pull off. Failure to do so will damage the nosepiece.

## Instructions for Cleaning

Wiping the unit with a soft cloth or wipe with isopropyl alcohol is sufficient to clean the unit. Avoid the use of acetone and other organic solvents which will damage the handle.

All components inside the nosepiece may be autoclaved with the exception of the Drummond Self-locking Filter. Replace the filter when compromised.

**STOP**

Always disconnect the charger from the unit when cleaning.

---

## Battery

The XP is powered by a 8.4V, nickel-metal hydride (Ni-MH), rechargeable battery (catalog number: 4-000-035).

The battery can be replaced by removing the screw marked (B) on the diagram on page 7 and sliding off the cover (78).

## Charging the Battery

**IMPORTANT: BATTERY SHOULD BE CHARGED FOR A MINIMUM OF SIX HOURS BEFORE INITIAL USE.**

When not in use, plug in the charger and let charge overnight.

**NOTE: DO NOT USE ANY CHARGER OTHER THAN THE ONE SUPPLIED. ALTHOUGH MANY OTHER CHARGERS WILL FIT INTO THE UNIT, CHARGING WILL NOT OCCUR AND DAMAGE TO THE BATTERY CAN RESULT.**

All rechargeable batteries have a limited life span. Generally each battery will last approximately 1 000 cycles (charges) and then must be replaced. Replacement is a user function and will require a Phillips head screwdriver, a new battery (4-000-035), and about two minutes of your time. (See above)



\* Use only recommended battery for replacement (DSC #4-000-035). Do not replace the battery with a non-rechargeable battery. Explosion or fire hazard can occur if incorrect battery replacement is used.

**Questions,  
Comments,  
Suggestions,  
or Service:**

**CALL OUR HOTLINE  
AT 1-800-523-7480**



## Ordering Information

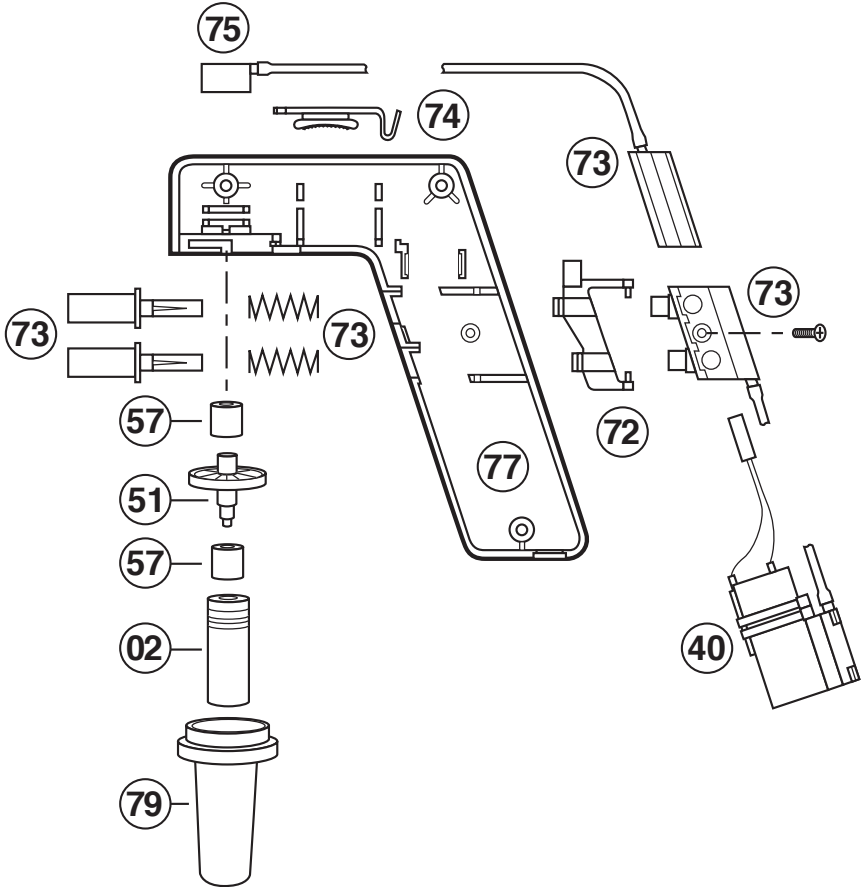
Catalog No.	Description
4-000-102	Pipet-Aid® XP Gravity Drain 110V
4-000-030	Charger, Input: 120V, 60Hz
4-000-202	Pipet-Aid® XP Gravity Drain 230V, Euro Plug, CE
4-000-031	European Charger, Input: 230V, 50Hz
4-000-202-E	Pipet-Aid® XP Gravity Drain 240V, UK, CE
4-000-033	UK Charger, Input: 240V, 50Hz

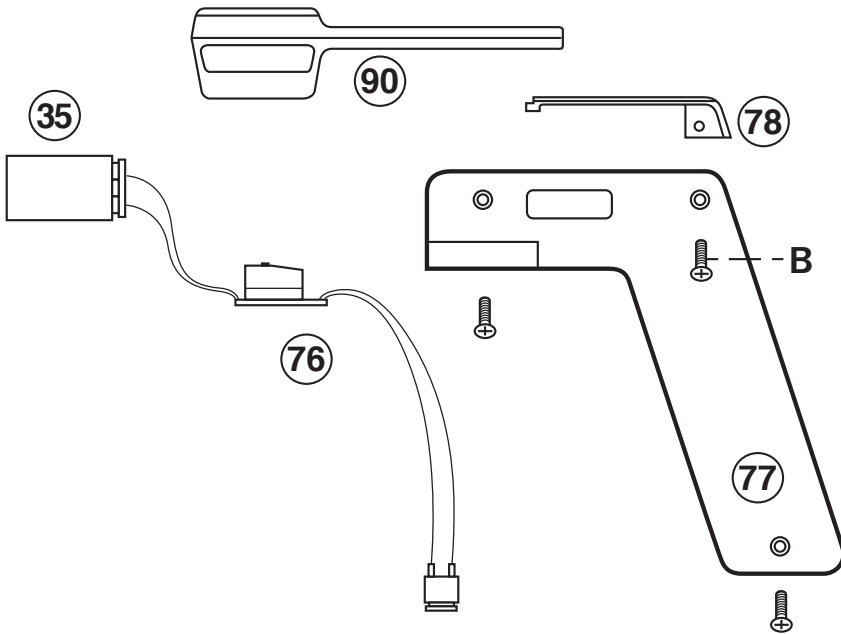
## Specifications

Size	5.5"
Weight	7.5 oz.
Capacity	Accepts 1 to 100 mL pipets
Battery	Ni-MH (8.4V/200 mAh)

## Parts

Commonly used parts (e.g. rubber inserts, batteries) are available from your dealer or Drummond Scientific Company. We welcome your comments, questions or suggestions.





**Index Numbers Correspond to Last Digits in Catalog Number**

Catalog No.	Parts Description	Catalog No.	Parts Description
4-000-002	Rubber Insert 2/pack	4-000-073	Valve Body Assembly (Complete with Buttons)
4-000-030*	Pipet-Aid® charger 120V	4-000-074	Nosepiece Release
4-000-031*	Pipet-Aid® charger 230V	4-000-075	Handle Connector
4-000-035	Ni-MH Rechargeable Battery	4-000-076	Wire Harness with Microswitch and Board
4-000-040	Portable Motor & Pump	4-000-077	Handle Shell
4-000-051	Replacement Filters 5/pack	4-000-078	Battery Door
4-000-051-S	Sterile Filters 5/pack	4-000-079	EZ Grip Nosepiece
4-000-052	Replacement Filters 50/pack	4-000-089**	Pipet-Aid® Holster-Type Wall Bracket
4-000-052-S	Sterile Filters 50/Pack	4-000-090	Removable Stand
4-000-057	TC Filter Gasket 2/pack		
4-000-072	Switch Operator		

\* Charger not shown

\*\* Wall Bracket not shown

## Maintenance and Servicing

Keep your Pipet-Aid clean and charged at all times. When not in use, it is appropriate to keep the unit plugged into the charger. No damage will occur if you are using the charger supplied.

**Drummond Self-locking Filters are provided with all models that use filters. Replacement part numbers are:**

4-000-051	5 pk	4-000-051-S	5 pk, sterile
4-000-052	50 pk	4-000-052-S	50 pk, sterile

These filters must be replaced if over-pipetting occurs. They protect the handle components as well as minimize cross contamination of samples and contain two membrane layers.

All rechargeable batteries have a limited life span; generally each battery will last 1,000 cycles (charges) and then must be replaced. Battery replacement is a user function and will not require any special tools; a Phillips screwdriver is all you will need.

## Voltage Rating and Frequency: Chargers

4-000-102			
4-000-030 (charger)	120V, 60Hz, 55mA		9VDC/10mA
4-000-202			
4-000-031 (charger)	230V, 50Hz, 55mA, CE, Int'l		8.7V/8mA
4-000-202-E			
4-000-033 (charger)	240V, 50Hz, 55mA, CE, UK		8.7V/10mA

## Battery Specifications – Pipet-Aid® XP

Cat. No.	Rating
4-000-035	8.4V/200mA Ni-MH



**DRUMMOND**  
SCIENTIFIC COMPANY

500 Parkway, Box 700  
Broomall, PA 19008  
800/523-7480 · FAX: 610/353-6204  
Website: [www.drummondsci.com](http://www.drummondsci.com)

For Technical Assistance, call  
**1-800-523-7480** or e-mail  
[info@drummondsci.com](mailto:info@drummondsci.com)