Operation Manual for the Drummond Pipet-Aid® XP2

Catalog Number 4-000-501
4-000-501-A
4-000-501-I
4-000-501-UK



Advanced Comfort, Convenience, and Control

Made in USA
by

DRUMMOND
SCIENTIFIC COMPANY

c UL us
LISTED
(LABORATORY EQUIPMENT)
34 HB

CE

Drummond Scientific Co.
500 Parkway
Broomall, PA 19008
800/523-7480 • 610/353-0200
www.pipet-aid.com

Operating Instructions for the Drummond Pipet-Aid® XP2

Rules for Safe Operation

- To protect against electrical shock, do not put unit or charger in water or other liquid.
- Do not operate in the presence of explosives and/or flammable fumes or liquids.
- Do not operate charger with damaged cord or if damaged in any way.
- Use charger only in a standard electrical outlet.
- Do not attempt to use the charger with any other product. **DO NOT ATTEMPT TO CHARGE THIS UNIT WITH ANY OTHER CHARGER. OTHER DRUMMOND CHARGERS ARE NOT COMPATIBLE AND WILL NOT FIT.**
- Do not handle plug of charger with wet hands.
- This product includes rechargeable Ni-MH batteries. Do not incinerate batteries as they may explode at high temperatures.

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

CONNECTION TO POWER SUPPLY

Check the power supply 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 is no breaks in the insulating surface. If any damage is noted, do not use the Pipet-Aid until the damaged mains is replaced.

Technical Specifications

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

Weight	7.2 oz.
Size	5.5″
Battery	Ni-MH (3.6V/700 mAh)

Models		**Power Supply**
4-000-501	Pipet-Aid XP2	110V, 60Hz, 55mA
4-000-501-A	Pipet-Aid XP2	240V, 50Hz, 55mA, CE, Australia
4-000-501-I	Pipet-Aid XP2	230V, 50Hz, 55mA, CE, International
4-000-501-UK	Pipet-Aid XP2	240V, 50Hz, 55ma, CE, UK

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 XP2. PAY CLOSE ATTENTION TO THE RULES FOR SAFE OPERATION WARNINGS AND CAUTIONS.

Features

The Pipet-Aid® XP2 incorporates several new features. The new lightweight ergonomic handle is designed to reduce neck, shoulder, and arm fatigue. A new powerful pump improves fluid movement and reduces noise level. Individual speed controls are provided for both aspirate and dispense modes. A green LED indicates battery is charging and the unit can be charged while in use. The new nosepiece cover makes filter and battery replacement easy. The new nosepiece lock will prevent accidental removal. A removable stand is supplied and can be removed when not needed.

The Drummond Pipet-Aid® XP2 is covered under the following U.S. Patents, and other foreign and US patents pending. #5,294,405, #5,214,968, #5,616,871, #7,329,104

Pipetting Instructions

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 button empties it. The flow rate is proportional to the amount the button is depressed.

Speed Controls

Each button has three speeds: **"F"** fast, **"M"** medium, and **"S"** slow. The speed is selected by rotating the button on its axis until a detent is felt; the speed chosen is visible when the handle is held in the right hand. The "M" corresponds to the speed of previous Pipet-Aids. Fast is to be used for rapid filling of large pipets or breaking up cell clumps. Slow speed should be used for small pipets or where precise delivery is required. Please note that each button can be set independently. For example, one could fill a large pipet on **"F"** and deliver small amounts on **"S"**.

CAUTION: SPEED CONTROL BUTTONS MUST BE POSITIONED ON "F", "M", OR "S". INTERMEDIATE SETTING WILL CAUSE LEAKAGE. ALSO, DO NOT CHANGE SPEED CONTROL BUTTONS WITH FLUID IN THE PIPET. THIS WILL ALSO CAUSE THE UNIT TO LEAK.

Filter

The XP2 incorporates a new nosepiece cover, which features a unique filter element. The self-locking TC filter (4-000-051) will cease to pass air in either direction when it becomes wet, alerting the user to possible contamination of the rubber insert. Each unit is supplied with 4 extra standard filters (4-000-051). **Sterile filters are available (4-000-051-S)**.

NOTE: IF THE PUMP **PULSES** WHEN THE FILL BUTTON IS DEPRESSED, THE FILTER HAS BEEN COMPROMISED AND MUST BE REPLACED. REPLACE WITH FILTER NUMBER 4-000-051 or 4-000-051-S.

To remove the filter, push in the front cover hold-down clip (13), gently pull up on the filter. Disconnect the filter from the filter connector (4). Replace with a new filter. Check to make sure the rubber insert (6) does not contain any liquid. If so, clean and dry the rubber insert or replace with a clean, dry insert. Keeping a supply of extras is recommended (4-000-002).

CLEANING AND DECONTAMINATION

To clean the Pipet-Aid, simply wipe the unit down with an alcohol (isopropanol) wipe or mild concentration of alcohol and water. Do not use any abrasives or solvents that might damage the handle.

Replace the filter and rubber insert.

The rubber insert is autoclavable but not the rest of the unit.

STOP ALWAYS disconnect the mains from the unit before cleaning.

Replacing Rubber Insert

To replace the rubber insert (6), remove the self-locking filter (5) and slide off the gray filter lock (2). The rubber insert will come out when you turn the unit upside down. NOTE: No TC gaskets are used on this model.

Battery

The XP2 is powered by a 3.6V, nickel-metal hydride (Ni-MH), rechargeable battery (catalog number: 4-000-036). ***It is not the same battery used in our other Portable Pipet-Aids®.***

Battery replacement is a user function. Although the batteries are rechargeable, they have a limited life span of generally 2-3 years or 1000 cycles. To replace the battery, remove the nosepiece cover, remove the filter. Gently pull the green battery out. Unplug the old battery and replace with a new battery (4-000-036). Batteries are available from your local lab equipment supplier or direct from Drummond Scientific Company.*

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/power supply and let charge overnight. The GREEN LED will light up when charging.

The green LED will remain on as long as the charger is plugged into the unit. An internal circuit will prevent overcharging.

NOTE: DO NOT USE ANY CHARGER OTHER THAN THE ONE SUPPLIED. **THIS UNIT IS NOT COMPATIBLE WITH OTHER DRUMMOND CHARGERS.** ALTHOUGH MANY OTHER CHARGERS WILL FIT INTO THE UNIT, CHARGING WILL NOT OCCUR OR DAMAGE TO THE BATTERY WILL RESULT.

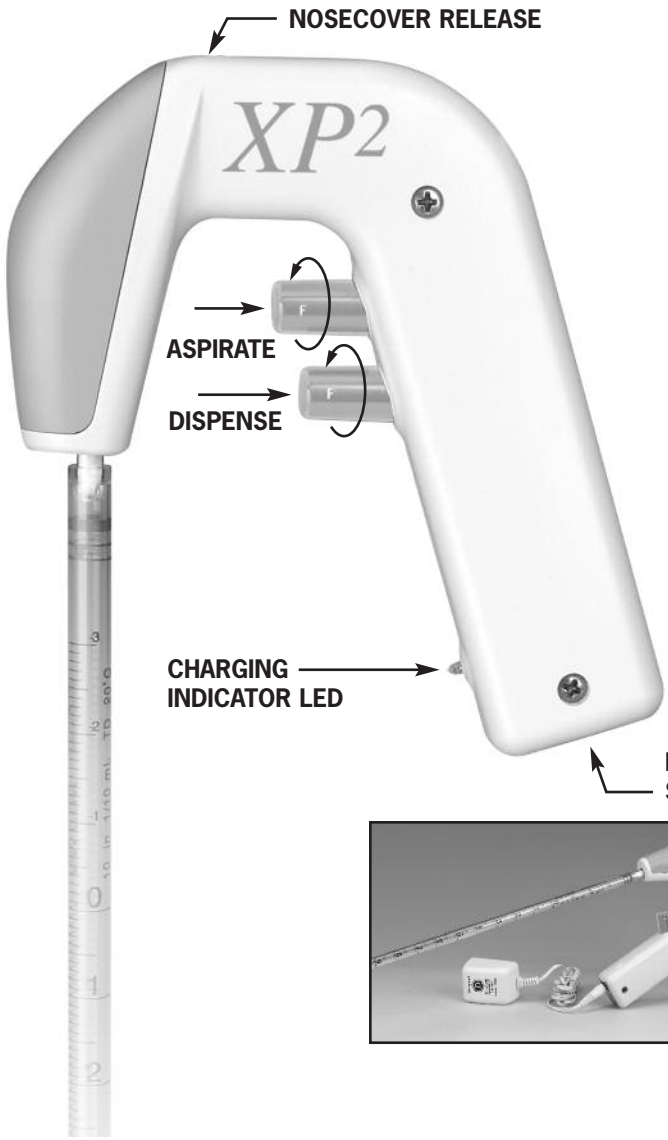
While using the unit and the battery charge becomes insufficient to operate the unit, plug in the charger and continue using the unit. Charging will take place while in use. The charger also functions as a power supply.

All rechargeable batteries have a limited life span. Generally each battery will last approximately 1000 cycles (charges) and then must be replaced. Replacement is a user function and will not require any tools. Replacement battery (4-000-036) and about two minutes of your time is all that is required.

*Use only recommended battery for replacement (DSC #4-000-036). Do not replace the battery with a non-rechargeable battery. Explosion or fire hazard can occur if incorrect battery replacement is used.

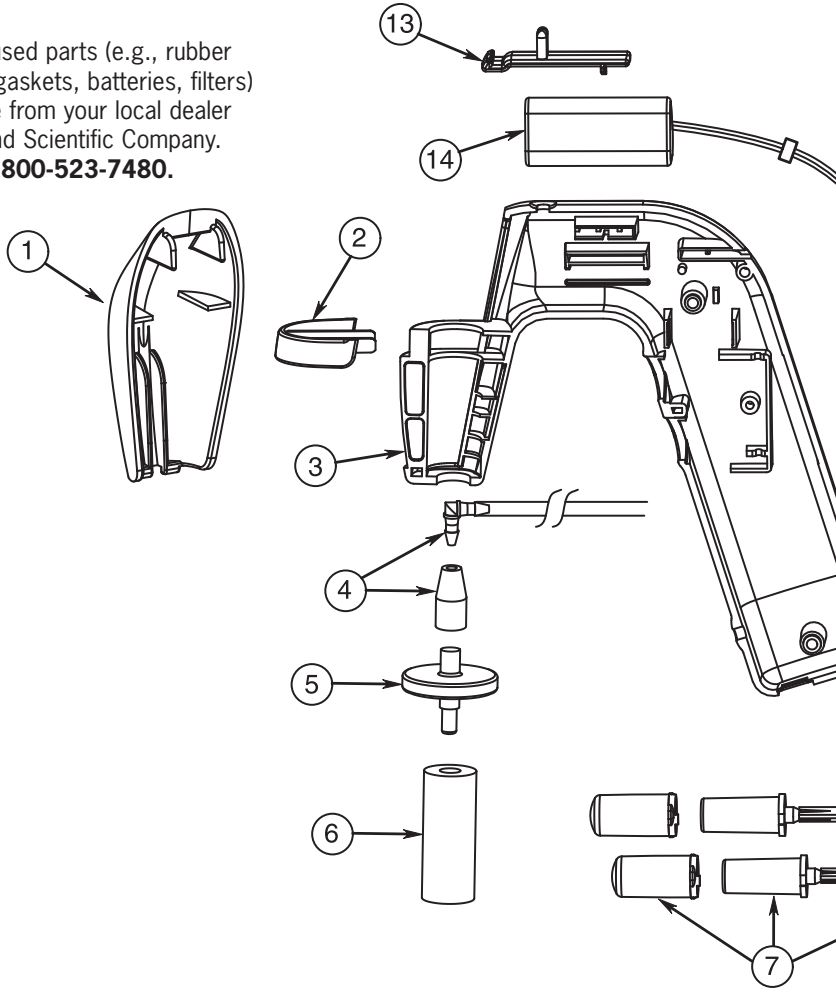
Questions, Comments, Suggestions, or Service:

CALL OUR HOTLINE AT 1-800-523-7480

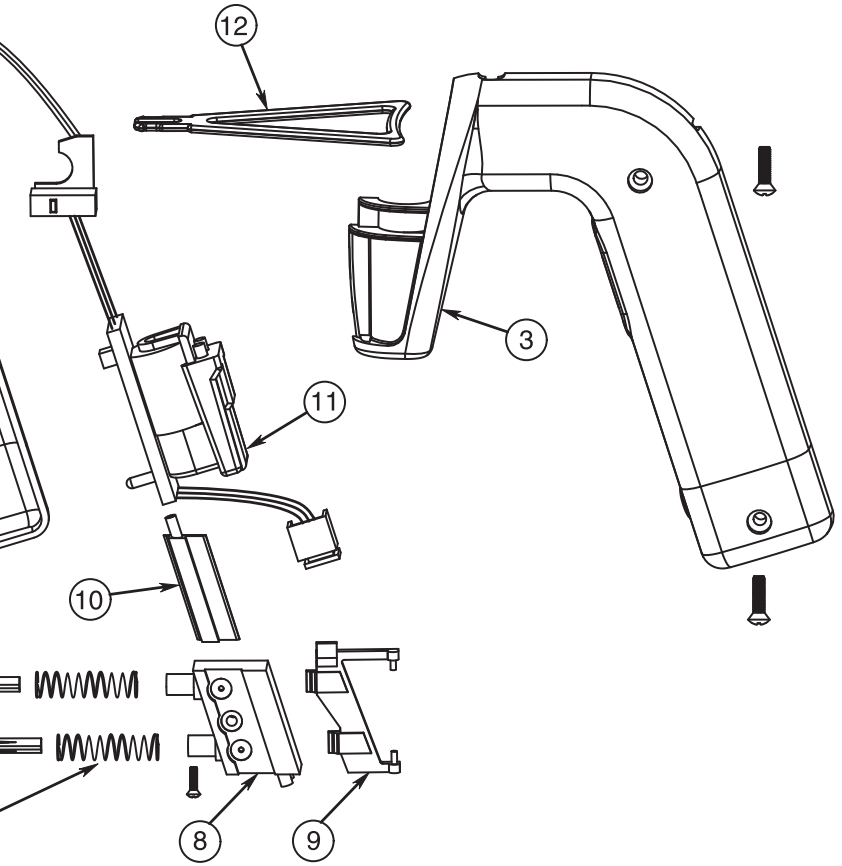


Parts:

Commonly used parts (e.g., rubber inserts, TC gaskets, batteries, filters) are available from your local dealer or Drummond Scientific Company. Call us at **1-800-523-7480.**



	Catalog No.	Parts Description
(**1**)	4-000-520	Nosepiece Cover–Front Cover–Filter Access Cover
(**2**)	4-000-522	Filter Lock
(**3**)	4-000-523	Handle Shell
(**4**)	4-000-524	Filter Connector–Filter/Tubing Connector
(**5**)	4-000-051	Self-locking Filter
	4-000-051-S	Self-locking Filter, Sterile (5/pk)
(**6**)	4-000-002	Rubber Insert
(**7**)	4-000-525	Button Assembly
(**8**)	4-000-073	XP2 Valve Body Complete w/Buttons
(**9**)	4-000-072	Switch Operator, XP/XL/XP2
(**10**)		Valve Body Slide (yellow) comes with Valve Body



	Catalog No.	Parts Description
(**11**)	4-000-061	XL/XP2 Pump, Board, Wire Harness, Micro Switch with Connecting Tubing
(**12**)	4-000-526	XP2 Removable Stand
(**13**)	4-000-527	Front Cover Hold-down Clip
(**14**)	4-000-036	Replacement Ni-MH Battery
[Not Shown]	4-000-065	Power Supply/Charger, Input: 120V, 60Hz, 55mA Output: 6VDC, 200mA
	4-000-066	European Power Supply/Charger, Input: 230V, 50Hz, 55mA Output: DC6V, 200mA
	4-000-066-A	Australian Power Supply/Charger, Input: 240V, 50Hz, Output: 6VDC, 300mA
	4-000-066-UK	UK Power Supply/Charger, Input: 240V, 50Hz, 55mA Output: DC6V, 200mA

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