中文版 | English

VITLAB®

VITLAB pipeo®

移液管助吸器

VITLAB pipeo®

Pipet Controller

操作手册 (中文版)

Operating Manual (Simplified Chinese)

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目录

1. 安全说明

由于本仪器可能会与危险物质搭配使用，本手册并未提及与本仪器用于上述应用相关的所有潜在安全风险。本仪器的使用者有责任在使用前查阅并制定适当的安全和健康规范，并确定法规限制的适用性。

1. 每位使用者都必须在操作前阅读并理解本操作手册。
2. 请遵守一般危害预防说明和安全法规，例如，应穿戴防护服、护目镜和手套。
3. 请遵循试剂制造商提供的所有规格说明。
4. 切勿在有爆炸危险的环境中使用本仪器。不得将本仪器用于移取高度易燃的液体。
5. 请严格遵守规定的使用限制，仅将本仪器用于移液。如有任何疑问，请联系制造商或供应商。
6. 使用本仪器时，请始终确保不会危及使用者或任何其他人的安全。请避免液体飞溅。只将液体分配到合适的容器。
7. 切勿暴力使用本仪器。
8. 仅可使用原始制造商的配件和备件。请勿尝试进行任何技术改动。请勿超出操作手册所述的范围进一步拆卸本仪器！
9. 使用前，请始终检查本仪器有无明显的损坏。如果存在潜在的故障迹象，应立即停止移液。请查阅本手册的“故障排除”部分（见第 18 页），必要时联系制造商。
10. 仅可使用原装交流适配器为镍氢电池充电。
11. 必须对交流适配器采取防潮措施，且仅可将其用于本仪器。

12. 只有经过授权的维修人员才能维修或保养本仪器。
13. 不得使用非充电电池或其他制造商生产的充电电池更换电池（见第 14 页）。

警告！

本仪器或电池使用不当（短路、机械损坏、过热等）可能会导致电池爆炸。

2. 用途

本仪器专门用于协助测量液体的玻璃或塑料刻度移液管和单刻度移液管（体积范围 0.1 mL 至 200 mL，移液管外径＜9.2 mm）的吸液和排液。
如果本仪器使用正确，移取的液体只会接触移液管。

3. 使用限制

本仪器用于移取液体，并遵守以下物理限制：

- + 10 °C至 + 40 °C（50 °F至 104 °F）（仪器和试剂）
- 蒸气压力最高 500 mbar。
  超过 300 mbar 时应缓慢吸液，以防液体沸腾。
- 液体密度最高 9.0 g/cm³

4. 操作例外情况

切勿将本仪器用于蒸气具有腐蚀性或对硅胶或 EPDM 材料具有腐蚀性的液体。
本仪器不能用于巴斯德移液管。

警告！
切勿在有爆炸危险的环境中使用本仪器或对其进行充电。不得移取高度易燃的液体（如乙醚、丙酮和闪点低于 0 °C的其他液体）。

5. 储存条件

将本仪器和配件存放在阴凉干燥处。

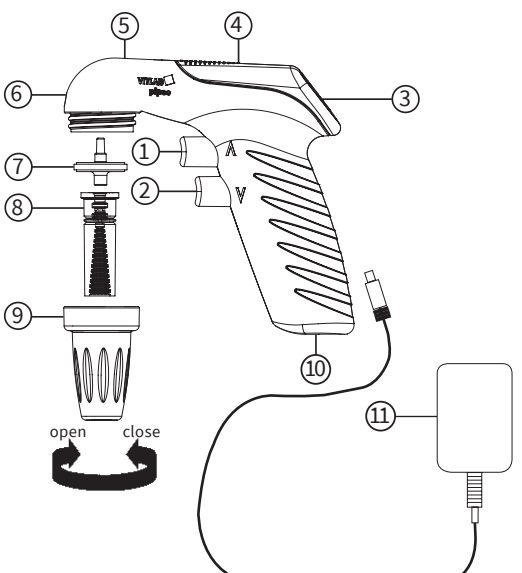
储存温度：
- 20 °C至 + 50 °C（- 4 °F至 + 122 °F）

6. 组件

1. 吸液按钮
2. 排液按钮
3. 模式选择开关
4. 电池仓
5. 充电指示灯（LED）
6. 进气口 / 排气口
7. 滤器（PP/PTFE）
8. 带单向阀的适配器（SI/PTFE）
9. 适配器外壳（PP）
10. 充电口
11. 交流适配器：

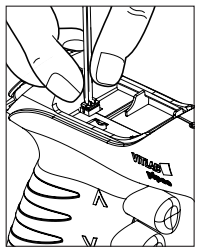
    输入：AC 100-240 V；50/60 Hz

    输出：DC 5V/200 mA



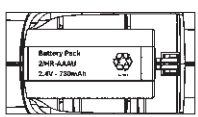
7. 开始

1. 确认电池插头对准，握住插头电线，然后用力将插头推入插孔。将电池放入电池仓。

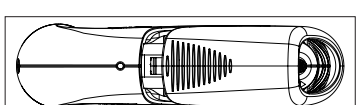


注：
LED 指示灯闪烁则表示电池必须充电后才能进行初始操作（第 12-13 页）。

2. 从包装中取出电池仓盖。

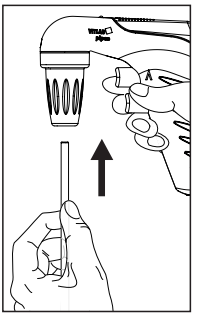


3. 盖上电池仓。



8. 移液

安装移液管

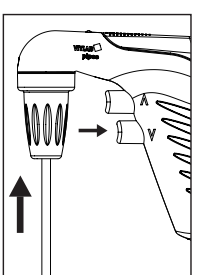


尽量握住移液管上端，小心地将其插入适配器中，直至完全贴合。

警告！
确保移液管与适配器紧密贴合。较细的移液管特别容易破裂。切勿暴力安装，避免产生受伤的风险！

固定好移液管后，请始终保持仪器垂直，吸头朝下。

吸液

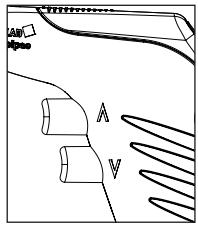


将移液管吸头浸入液体中。
缓慢按下上方的吸液按钮，填充移液管，使凹液面略高于所需的刻度。

注意！
注意避免移液管过度吸液。

移液速度控制

通过改变施加在按钮上的压力大小，可提供连续可变的速度，最高可达速度控制器设定的速度。按下上方的按钮进行吸液，按下下方的按钮进行排液。



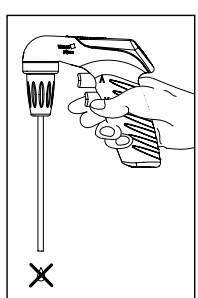
调整体积

使用合适的无尘纸擦拭移液管吸头。缓慢按下下方的按钮并进行排液，直到将凹液面精确调整到所需的体积。

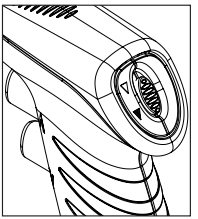
密封性测试

设定好凹液面后，在阀门启动之前，液体不应从移液管内滴出。

如果移液管滴液，请参见“故障排除”章节（见第 18 页）



选择模式



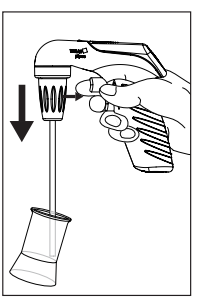
上滑开关：

▽ 重力模式

下滑开关：

▼ 马达模式（使用电机驱动）

排液



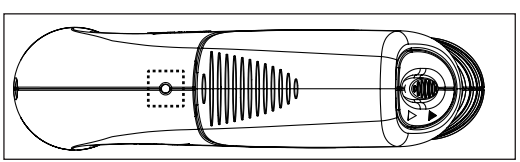
缓慢按下下方的排液按钮。排液速度取决于施加在排液按钮上的压力大小。

9. 电池充电

警告!

仅可使用原厂的交流适配器!使用其他交流适配器可能会损坏本仪器和充电器，并导致保修失效。确认交流适配器的电压与电源插座的电压相符。交流适配器的功率差异不应超过 ±10 %。

镍氢电池充满一次电后可连续移液 8 小时。LED 指示灯闪烁时，表示需要充电。

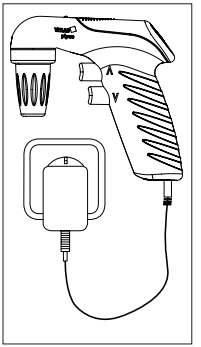


充电指示灯

LED 熄灭或闪烁绿色：	- 电池电量充足
LED 缓慢闪烁红色：	- 剩余电量最多只够进行两个小时的移液操作；建议为电池充电
LED 快速闪烁红色：	- 结束移液操作并为电池充电

充电步骤

1. 充电温度范围：+ 10 °C至 + 35 °C（+ 50 °F至 + 95 °F）
2. 首次连接交流适配器时，仪器上的 LED 灯长亮。
3. 充电 4 小时后，交流适配器会切换到脉冲长期充电模式（指示灯每 15 秒闪烁一次）。



注：

充电系统的设计旨在防止电池过度充电，并最大限度减少“电池记忆效应”。为了维持最大的电池容量，最好只在 LED 缓慢闪烁或快速闪烁指示需要充电时为电池充电。充电期间可以使用本仪器。如果充电过程中 LED 灯不亮，请参见“故障排除”章节（见第 18 页）。

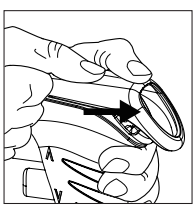
10. 更换电池

警告!

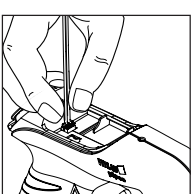
仅可使用原厂的配件（见第 17 页）。不得使用非充电电池或其他制造商生产的充电电池更换电池。

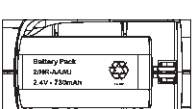
使用不合适的电池或本仪器使用不当（如短路、机械损坏、过热等），可能会导致电池爆炸。

1. 打开电池仓时，请按压压印箭头（位置 ① ），同时向后滑动盖子。



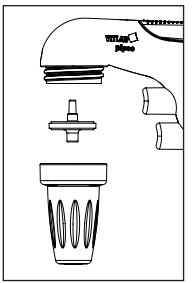
2. 取出电池。
3. 握住电池插头的电线，将插头从插孔中轻轻拔出。
4. 通过新电池插头的电线，将插头用力推入插孔，直到听到其卡入的声音。
5. 插入新电池并盖上电池仓。





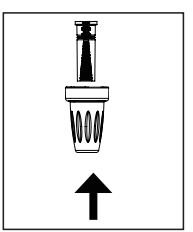
11. 更换滤器并清洁单向阀

只有在移液管过度吸液或吸液能力受损时才有必要更换和清洁。



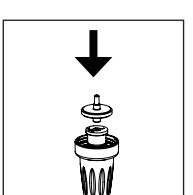
警告!
请佩戴防护手套和护目镜。避免污染风险!

1. 取出移液管。
2. 旋下适配器外壳。
3. 取下滤器。
4. 向上推动适配器，将其从适配器外壳中取出来。请勿拆下适配器上的单向阀。



5. 如要清洁内置单向阀的适配器，请使用洗瓶仔细冲洗。吹出液体并完全晾干。

6. 将新的滤器较粗的一端朝下，放入适配器（较细的一端朝上）。



7. 根据 DIN EN 285 标准，整个移液管适配器（包括滤器）可在 121 °C（250 °F）、2 bar（30 psi）的压力条件下进行高温灭菌，保持时间为至少 15 分钟。
8. 按相反顺序重新组装仪器并进行密封性测试（见第 10 页）。

注：
并非所有滤器都适用。仅可使用原厂推荐的配件。
每台仪器都配有 0.2 µm 滤器（红色色标）。滤器可在 121 °C（250 °F）下高温灭菌 5 次。使用者有责任确保高温灭菌有效进行。孔径为 0.2 µm 的滤器（用于细胞培养）足以满足 B 级允差要求。如需达到 A 级准确度，则必须使用 3 µm 滤器。这种滤器的孔径更大，因此，在重力模式下气流更好通过。（见第 17 页 “备件”）。

12. 清洁 • 紫外灭菌 • 高温灭菌

偶尔用湿布擦拭外壳。
如果使用得当，本仪器为免维护型设备。

本仪器可承受紫外灭菌灯的正常输出功率。紫外线可能会导致本仪器发生一些颜色变化。

根据 DIN EN 285 标准，滤器、适配器和适配器外壳可在 121 °C（250 °F）、2 bar（30 psi）的压力条件下进行高温灭菌，保持时间为至少 15 分钟。
高温灭菌前，必须仔细清洁部件（见第 15 页）。

13. 订购信息

随附部件：

VITLAB pipeo® 移液管助吸器、AC 适配器（100-240 V，50/60 Hz）、4 个插头适配器（EU、UK、US/J、AUS）、电池、电池仓盖、两个 0.2 µm 滤器（更换用）和使用手册

	货号
VITLAB pipeo®	**C0026380**

14. 配件和备件

	Cat. No.
适配器外壳	**VT003.1661281**
带单向阀的硅胶适配器	**26508**
备用 0.2 µm 无菌滤器（红色色标）1 个，泡罩包装	**26530**
备用 0.2 µm 非无菌滤器 10 个，PTFE	**26535**
备用 3 µm 非无菌膜滤器 10 个，PTFE	**26056**
电池充电器	**26606**
镍氢电池	**26630**
壁挂架，灰色	**VT003.1670660**

15. 故障排除

故障	可能的原因	需采取的措施
吸液能力受损	- 单向阀关闭 - 滤器或单向阀脏污	- 将模式选择开关设为“马达模式”，并按下下面的按钮吹出（见第 11 页） - 清洁和 / 或更换单向阀（ 见第 15-16 页）
移液管滴液	- 滤器位置不正确 - 适配器或移液管损坏	- 适当插入滤器（见第 15 页） - 更换适配器或移液管（见第 15-16 页）
移液管无法正确固定	- 适配器脏污或损坏	- 清洁适配器，晾干和 / 或更换适配器（ 见第 15-16 页）
连接交流适配器后，本仪器的 LED 指示灯闪烁或不亮	- 电池 / 交流适配器或仪器故障	- 更换电池 / 交流适配器 - 将仪器送去维修（见第 19 页）
充电不成功，仪器的 LED 指示灯不亮	- 电池问题	- 更换电池（见第 14 页）

如果按照“故障排除”章节中的建议无法解决当前问题，请直接联系授权经销商或制造商。

16. 返厂维修

注意！
为安全起见，仅可对干净 / 已消毒的仪器进行检查 / 维修。

- 因此：请仔细对本仪器进行清洁和消毒。
- 填写“无健康危害声明”（向供应商或制造商索要该表格。），并将仪器送至制造商或供应商，并说明：
  - 故障的信息
  - 移取的液体。

运输风险和费用由寄件人承担。

17. 保修

对于因不当搬运、使用、保养、操作或擅自维修仪器而造成的后果，或因正常磨损（尤其是活塞、密封圈密封圈、阀门等易损件）和玻璃破损以及未遵守操作手册的说明而造成的后果，我方不承担任何责任。对于因执行操作手册未说明的任何操作或使用非原装备件造成的损坏，我方不承担任何责任。

18. 电池处置

旁边的符号表示蓄电池和电子设备在使用寿命结束后必须与生活垃圾（混合城市垃圾）分开处置。蓄电池应作为有害垃圾进行处置。

电池仅可在完全放电后进行处置。

警告！
请勿在电池短路的情况下对其放电！

为了确定配件的所有均质材料中有害物质的浓度，执行了 " 产品合格评定 "（PCA）程序。根据 GB/T 26572 的规定，" 最大浓度值 " 限制（MCV）适用于这些受限物质：

+ 铅（Pb）：0.1%　　+ 六价铬（Cr（+VI））：　0.1%
+ 汞（Hg）：0.1%　　+ 多溴联苯（PBB）：　　0.1%
+ 镉（Cd）：0.01%　　+ 多溴二苯醚（PBDE）：0.1%

环保使用期限 （EFUP）

环保使用期限指在正常操作条件下，电气和电子产品所含有害物质不会泄漏或变异的年限。在用户正常使用期间，这些电气和电子产品不会造成严重的环境污染、严重的人身伤害或用户财产损失。

普兰德（湖州）科学仪器有限公司移液管助吸器的环保使用期限为 40 年。

普兰德（湖州）科学仪器有限公司产品的材料含量声明:

	有毒有害物质或元素 Hazardous substances					
部件名称 Part name	铅 Pb	汞 Hg	镉 Cd	六价铬 Cr(+VI)	多溴联苯 PBB	多溴二苯醚 PBDE
包装 / Packaging	O	O	O	O	O	O
塑料外壳 / 组件 Plastic housing / parts	O	O	O	O	O	O
电池 / Battery	O	O	O	O	O	O
玻璃 / Glass	O	O	O	O	O	O
电子电气组件 Electrical and electronic parts	X	O	O	O	O	O
金属外壳 / 组件 Metal housing / parts	X	O	O	O	O	O
电机 / Motor	X	O	O	O	O	O
配件 / Accessories	X	O	O	O	O	O

此表格是按照SJ/T 11364-2014中规定所制定的。
This table is created according to SJ/T 11364-2014.

O: 表示该有毒有害物质在该部件所有均质材料中的含量均在GB/T26572规定的限量要求以下。
O: Indicates that the above mentioned hazardous substance contained in all homogeneous materials of the part is below the required limit as defined in GB/T 26572.

X: 表示该有毒有害物质至少在该部件某一均质材料中的含量超出GB/T 26572规定的限量要求。
X: Indicates that the above mentioned hazardous substance containedin at least one of the homoge- neous materials of this part is above the required limit as defined in GB/T 26572.

注释: 电池，玻璃制品和配件可能不属于此设备的一部分且/或可能有它自己的EFUP标志且/或可能包含更改EFUP标志的部件。

Note: Batteries, glassware and accessories might not be content of the enclosed device and/or mayhave their own EFUP-marking and/or might be maintaining parts with changing EFUP-marking.

除以上表格显示的内容外，配件在生产或制造过程中没有故意使用铅（Pb）、汞（Hg）、镉（Cd）、六价铬（Cr（+VI））、多溴联苯（PBB）和多溴联苯醚（PBDE）。

以上信息是基于供应商提供的数据及普兰德（湖州）科学仪器有限公司的检测结果。在当前技术水平下，上述有害物质的浓度已控制在尽可能低的水平。

如有技术改动，恕不另行通知。
我方对印刷或排版错误不承担任何责任。

中文版 | English

VITLAB®

VITLAB pipeo®

移液管助吸器

VITLAB pipeo®

Pipet Controller

操作手册 (英文版)

Operating Manual (English)

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Contents

1. Safety Instructions

Because this instrument may be used with hazardous materials, this Operating Manual does not purport to address all of the safety problems associated with its use. It is the responsibility of whomever uses this instrument to consult and establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.

1. Every user must read and understand this operating manual before operation.
2. Follow the general instructions for hazard prevention and safety regulations, e.g., wear protective clothing, eye protection and gloves.
3. Observe all specifications provided by reagent manufacturers.
4. Never use the instrument in an atmosphere with danger of explosion. Highly flammable liquids must not be pipetted.
5. Use the instrument only for dispensing liquids, with strict regard to the defined limitations of use. If in doubt, contact the manufacturer or supplier.
6. Always use the instrument in such a way that neither the user nor any other person is endangered. Avoid splashes. Only dispense into suitable vessels.
7. Never use force when using this instrument.
8. Only use original manufacturer's accessories and spare parts. Do not attempt to make any technical alterations. Do not dismantle the instrument any further than is described in the operating manual!
9. Always check the instrument for visual damage before use. If there is a sign of a potential malfunction, immediately stop pipetting. Consult the 'Troubleshooting' section of this manual (see page 18), and contact the manufacturer if needed.
10. Only the original AC adapter can be used for recharging of the nickelmetal hydride battery.
11. The AC adapter has to be protected against moisture and must be used only for this instrument.

12. Only authorized service personnel may repair or service the instrument.
13. The battery must not be replaced with nonchargeable batteries or rechargeable batteries of other manufacturers (see page 14).

Warning!
Improper use of the instrument or the battery (short-circuit, mechanical damage, overheating, etc.) may cause the explosion of the battery.

2. Application

The instrument is designed to assist the filling and dispensing of graduated and volumetric pipettes of glass or plastic in the volume range of 0.1 mL to 200 mL with a suction tube outer diameter < 9.2 mm for measuring liquids. If the instrument is used correctly, the pipetted liquid will only contact the pipette.

3. Limitations of use

The instrument is designed for pipetting liquids, observing the following physical limits:

- + 10 °C to + 40 °C (50 °F to 104 °F) (of instrument and reagent)
- Vapor pressure up to max. 500 mbar.
  Aspirate slowly above 300 mbar, in order to prevent the liquid from boiling.
- Density up to 9.0 g/cm^3

4. Operating exclusions

Never use the instrument with liquids whose vapors have a corrosive effect or attack the materials silicone or EPDM.
The instrument is not designed for Pasteur pipettes.

Warning!

Never use or recharge the instrument in an atmosphere with danger of explosion. Highly flammable liquids (e. g., ether, acetone and other liquids with a flash point below 0 °C) must not be pipetted.

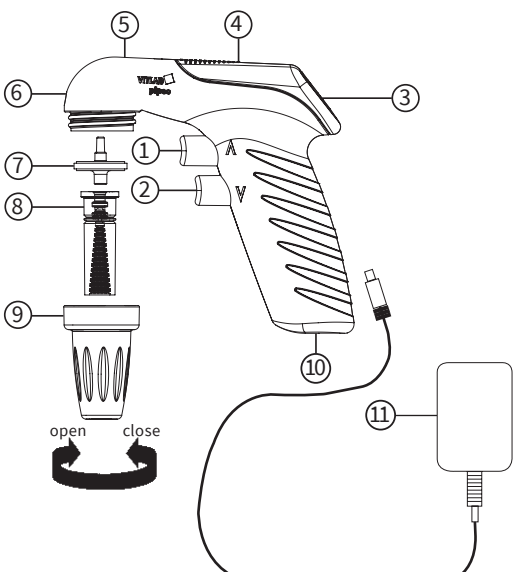
5. Storage conditions

Store instrument and accessories in a cool, dry place.

Storage temperature:
- 20 °C to + 50 °C (- 4 °F to + 122 °F)

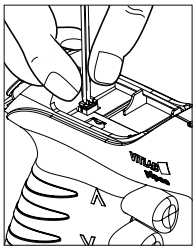
6. Components

1. Aspirate button
2. Delivery button
3. Mode selection switch
4. Battery compartment
5. Recharging-indicator (LED)
6. Air inlet/exhaust
7. Membrane filter (PP/PTFE)
8. Adapter with check-valve (SI/PTFE)
9. Adapter support (PP)
10. Charging socket
11. AC Adapter:
    Input: AC 100 - 240 V; 50/60 Hz
    Output: DC 5V/200 mA



7. Getting started

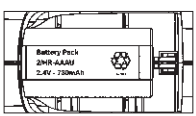
1. Confirm alignment of battery plug and grip the plug by the wire and push it firmly into the socket. Place battery in compartment.



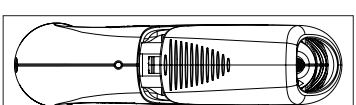
Note:

Flashing LED indicates that the battery has to be charged for initial operation
(➢ pages 12-13).

2. Take battery compartment cover out of the packaging.



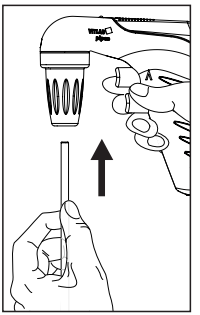
3. Close battery compartment.



8. Pipetting

Attach the pipette

Hold the pipette as near to its upper end as possible, and carefully insert it into the adapter until it fits tightly.



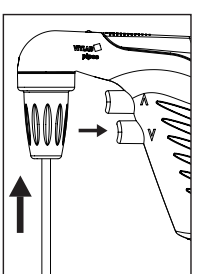
Warning!

Be sure that the pipette fits tightly into the adapter. Never use force. Thin pipets are particularly liable to break. Avoid the risk of injury!

Once the pipette has been securely attached, always hold the instrument in a vertical position, tip down.

Filling

Immerse the pipette tip into the liquid.
Slowly depress the upper pipetting button and fill the pipette so that the meniscus is slightly above the mark desired.

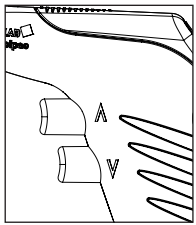


Attention!

Take care to avoid overfilling of the pipette.

Pipetting speed control

The amount of pressure on the pipetting buttons provides continuously variable speeds up to the rate set by the speed controller. Press upper pipetting button for filling and lower button for dispensing.

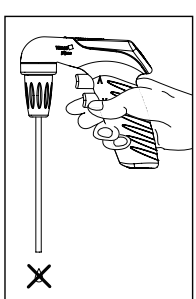


Adjust the volume

Use suitable lint-free tissue to wipe the pipette tip. Slowly press the lower button and dispense liquid until the meniscus is adjusted exactly to the desired volume.

Leak Test

When the meniscus has been set, liquid should not drip out of the pipette until the valves are activated. Should the pipette drip, see chapter ‘Trouble-shooting’ (➢ page 18)



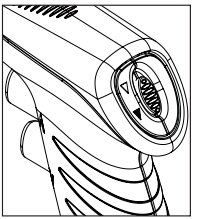
Select mode

Switch up:

▽ Gravity-delivery

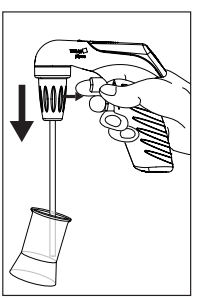
Switch down:

▼ Blow-out (with motor power)



Dispensing

Slowly press the lower pipetting button. The dispensing speed is dependent on the amount of pressure on the pipetting button.

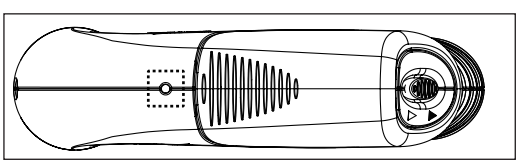


9. Recharging the battery

Warning!

Use original manufacturer's AC adapter only! Using a different AC adapter can damage both the instrument and the charger, and will void the warranty. Confirm the voltage of the AC adapter matches the voltage of your electrical outlet. The power supplied to the AC adapter should differ by no more than ± 10 %.

One full charge of the nickel-metal hydride battery allows 8 hours of non-stop pipetting. A flashing LED indicates the need for recharging.

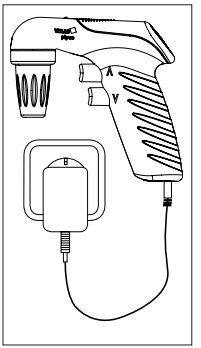


Recharging indicator

LED off or flashes green:	- battery charge is sufficient
LED flashes slowly red:	- remaining battery charge is sufficient for a maximum of two hours of pipetting; charging of battery is recommended
LED flashes quickly red:	- finish pipetting activity and charge battery

Recharging procedure

1. Temperature range for recharging:
   + 10 °C to + 35 °C (+ 50 °F to + 95 °F)
2. When the AC adapter is initially connected, the LED on the instrument lights continuously.
3. After 4 hours of charging, the AC adapter switches to a pulsed, long-term charging mode (indicated by the LED flashing every 15 seconds).



Note:

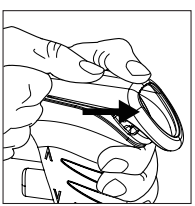
The charging system is designed to prevent the battery from overcharging and minimizes the lazy-battery-effect. To maintain maximum battery capacity, it is best to charge the battery only when the slowly-flashing or quickly-flashing LED indicates charging is needed.
The instrument can be used during recharging.
If the LED does not light up during charging see chapter ‘Troubleshooting’ (➢ page 18).

10. Replacing the battery

Warning!

Only use original manufacturer's accessories (page 17). The battery must not be replaced by non-rechargeable or rechargeable batteries of other manufacturers.
Use of the wrong batteries or improper use of the instrument (e.g., short-circuit, mechanical damage, overheating, etc.) may cause the batteries to explode.

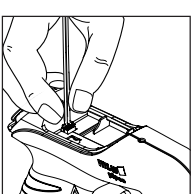
1. To open the battery compartment press at the embossed arrow, position ①, and simultaneously slide cover back.



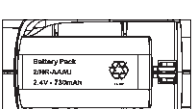
2. Remove the battery.

3. Grip battery plug by the wire and pull it gently out of the socket.

4. Grip the plug of the new battery by the wire and push it firmly into the socket until you can hear it is snapping in.

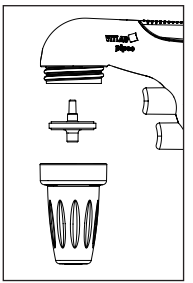


5. Insert new battery and close battery compartment.



11. Replacing the filter and cleaning the check valve

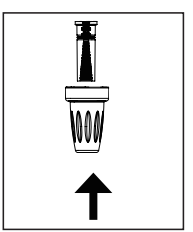
Only necessary if a pipette has been overfilled or the suction capacity is impaired.



Warning!

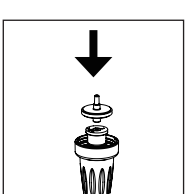
Wear protective gloves and eye protection.
Avoid the risk of contamination!

1. Pull out the pipette.
2. Unscrew the adapter support.
3. Pull out the membrane filter.
4. Remove the adapter from the adapter support by pushing it upwards. Do not remove check valve from the adapter.



5. To clean adapter with built-in check valve, carefully rinse it by using a wash bottle. Blow out the liquid and allow to dry completely.

6. Place the new membrane filter with the thicker end facing downwards into the adapter (with the smaller conical side up).



7. The entire pipette adapter incl. membrane filter is autoclavable at 121 °C (250 °F), 2 bar absolute (30 psi) with a holding time of at least 15 minutes according to DIN EN 285.

8. Reassemble the instrument in reverse order and carry out leak test (➢ page 10).

Note:

Not every membrane filter is suitable. Only use genuine manufacturer's recommended accessories.
Each instrument will be supplied with a 0.2 µm membrane filter (red color code). The membrane filter is autoclavable up to 5 times at 121 °C (250 °F). It is the user's responsibility to ensure effective autoclaving. The filter with 0.2 µm pore size (for cell culture) is sufficient to meet class B tolerances. For class A accuracy, it is necessary to use a 3 µm membrane filter. This filter has a larger pore size and thus permits better airflow for gravity-delivery. (Spare parts page 17).

12. Cleaning · UV sterilization · Autoclaving

Occasionally wipe the housing with a damp cloth.
When properly used, the instrument is maintenance-free.

The unit can withstand the usual output of a UV sterilization lamp. The effects of the UV may cause some color change.

Membrane filter, adapter and adapter support are autoclavable at 121 °C (250 °F), 2 bar absolute (30 psi) with a holding time of at least 15 minutes according to DIN EN 285.

Before autoclaving, the parts must be cleaned carefully (➢ page 15).

13. Ordering Data

Included in delivery:
VITLAB pipeo®- pipette controller with
AC adapter (100 - 240 V, 50/60 Hz),
4 plug adapters (EU, UK, US/J, AUS), battery, battery compartment cover,
two replacement 0.2 µm membrane filters and instruction manual

	Cat. No.
VITLAB pipeo®	**C0026380**

14. Accessories and spare parts

	Cat. No.
Adapter housing	**VT003.1661281**
Silicone adapter with non-return valve	**26508**
Spare membrane filter 0.2 µm, sterile (red color code) 1 pc. in blister pack	**26530**
Spare membrane filter 0.2 µm, non-sterile 10 pc. PTFE	**26535**
Spare membrane filter 3 µm, non-sterile 10 pc. PTFE	**26056**
Battery charger	**26606**
Nickel-metal hydride battery	**26630**
Wall support, grey	**VT003.1670660**

15. Troubleshooting

Trouble	Possible Cause	Action to be taken
Suction capacity impaired	- Check valve closed - Filter or check valve dirty	- Set mode selection switch for "power delivery" and press lower button for blow out (➢ p. 11) - Clean and/or replace check valve (➢ p. 15-16)
Pipette drips	- Filter not properly positioned - Adapter or pipette damaged	- Insert filter properly (➢ p. 15) - Replace adapter or pipette (➢ p. 15-16)
Pipette not held properly	- Adapter dirty or damaged	- Clean the adapter, allow it to dry and/or replace it (➢ p.15-16)
After connecting the AC adapter, the LED-display of the instrument flashes or does not light up	- Battery/AC adapter or Instrument defective	- Replace battery/AC adapter - Send the instrument in for repair (➢ p.19)
Recharging procedure not successful, LED-display of the instrument does not light up	- Battery problem	- Replace battery (➢ p. 14)

If recommendations in the Troubleshooting section do not solve current problems, contact your authorized dealer or the manufacturer directly.

16. Return for Repair

Attention!

For safety reasons, only clean/decontaminated instruments can be checked/repaired.

- Therefore: Clean and decontaminate the instrument carefully.
- Complete the “Declaration on Absence of Health Hazards”(ask your supplier or manufacturer for forms.) and send the instrument to the manufacturer or supplier and describe:
  - the nature of the problem
  - the pipetted liquids.

Shipment is at the risk and the cost of the sender.

17. Warranty

We shall not be liable for the consequences of improper handling, use, servicing, operation or unauthorized repairs of the instrument or the consequences of normal wear and tear especially of wearing parts such as pistons, seals, valves and the breakage of glass as well as the failure to follow the instructions of the operating manual. We are not liable for damage resulting from any actions not described in the operating manual or if non-original spare parts or components have been used.

18. Battery Disposal

The adjoining symbol means that storage batteries and electronic devices must be disposed of separately from household trash (mixed municipal waste) at the end of their service life. Storage batteries should be disposed of as hazardous waste.

Dispose of batteries only when completely discharged.

Warning!

Do not short-circuit the battery to discharge it!

In order to determine the concentration of hazardous substances in all homogeneous materials of the subassemblies, a “Product Conformity Assessment” (PCA) procedure was performed. As defined in GB/T 26572 the “Maximum Concentration Value” limits (MCV) apply to these restricted substances:

+ Lead (Pb):	0.1%	+ Hexavalent chromium (Cr(+VI)):	0.1%
+ Mercury (Hg):	0.1%	+ Polybrominated biphenlys (PBB):	0.1%
+ Cadmium (Cd):	0.01%	+ Polybrominated diphenyl ether (PBDE):	0.1%

Environmental Friendly Use Period (EFUP)

EFUP defines the period in years during which the hazardous substances contained in electrical and electronic products will not leak or mutate under normal operating conditions. During normal use by the user such electrical and electronic products will not result in serious environmental pollution, cause serious bodily injury or damage to the user’s assets.

The Environmental Friendly Use Period for BRAND (Huzhou) Scientific Instruments pipette controller is 40 years.

Material Content Declaration for BRAND (Huzhou) Scientific Instrument Co. Ltd. Products:

	有毒有害物质或元素 Hazardous substances					
部件名称 Part name	铅 Pb	汞 Hg	镉 Cd	六价铬 Cr(+VI)	多溴联苯 PBB	多溴二苯醚 PBDE
包装 / Packaging	O	O	O	O	O	O
塑料外壳 / 组件 Plastic housing / parts	O	O	O	O	O	O
电池 / Battery	O	O	O	O	O	O
玻璃 / Glass	O	O	O	O	O	O
电子电气组件 Electrical and electronic parts	X	O	O	O	O	O
金属外壳 / 组件 Metal housing / parts	X	O	O	O	O	O
电机 / Motor	X	O	O	O	O	O
配件 / Accessories	X	O	O	O	O	O

此表格是按照SJ/T 11364-2014中规定所制定的。
This table is created according to SJ/T 11364-2014.

O: 表示该有毒有害物质在该部件所有均质材料中的含量均在GB/T26572规定的限量要求以下。
O: Indicates that the above mentioned hazardous substance contained in all homogeneous materials of the part is below the required limit as defined in GB/T 26572.

X: 表示该有毒有害物质至少在该部件某一均质材料中的含量超出GB/T 26572规定的限量要求。
X: Indicates that the above mentioned hazardous substance containedin at least one of the homoge- neous materials of this part is above the required limit as defined in GB/T 26572.

注释: 电池，玻璃制品和配件可能不属于此设备的一部分且/或可能有它自己的EFUP标志且/或可能包含更改EFUP标志的部件。

Note: Batteries, glassware and accessories might not be content of the enclosed device and/or mayhave their own EFUP-marking and/or might be maintaining parts with changing EFUP-marking.

Apart from the disclosures in the above table, the subassemblies are not intentionally manufactured or formulated with lead (Pb), mercury (Hg), cadmium (Cd), hexavalent chromium (Cr+VI), polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE).

The above results are based on data provided from the supplier and the results from testing conducted by BRAND (Huzhou) Scientific Instruments Co., Ltd. the concentration of all hazardous substances mentioned above are controlled to be as low as possible under current technical capabilities.

Subject to technical modification without notice.
We will not be held responsible for printing or typographical errors.