

Pipettierhelfer / Pipet Controller

pipeo®

Gebrauchsanleitung
Operating Manual

EU-Konformitätserklärung EU-Declaration of Conformity



Kenn-Nummer / No : siehe Gehäuseunterseite / see reverse side of housing - Artikel-Nr / Article No: 1631500
Gegenstand der Erklärung / Object of the declaration: VITLAB pipeo®

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung in Bezug auf die Erfüllung der grundlegenden Anforderungen und die Anfertigung der technischen Unterlagen trägt der Hersteller
The manufacturer is solely responsible for issuing this declaration of conformity with regard to meeting the essential requirements and preparing the technical documentation.

VITLAB GmbH
Linus-Pauling-Straße 1
63762 Großostheim
Deutschland, Germany

Der oben beschriebene Gegenstand entspricht den grundlegenden Anforderungen, die in den nachfolgend bezeichneten Harmonisierungsrechtsvorschriften festgelegt sind:

The object described above meets the basic requirements that are specified in the harmonization legislation listed below:

Angewendete harmonisierte Normen:
Applied harmonized standards:

RoHS : 2011/65/EC ⁽¹⁾
incl. RoHS : 2015/863/EU ⁽²⁾
EMC : 2014/30/EC ⁽³⁾

EN IEC 63000:2018

EN 61326-1:2013

Weitere angewandte Normen:
Other applied standards:

Geltungsbereich:
Scope:

EN 61010-1:2010/A1:2019/AC:2019-04, EN 61010-1:2010/A1:2019
EN/IEC 62368-1:2014 (angewendet auf Fremdherstellernetzteil
/ applied to thirdparty power supply)

NRL / LVD
NRL / LVD

Zusatzangaben / additional information:

Fundstellen / References:

⁽¹⁾ ABl. L 174 vom 1.7.2011, S. 88-110. / OJ L 174, 1.7.2011, p. 88-110.

in der jeweils gültigen Fassung. / in the respective current version. (<https://eur-lex.europa.eu/homepage.html>)*

⁽²⁾ ABl. L 137 vom 4.6.2015, S. 10-12. / OJ L 137, 4.6.2015, p. 10-12.

in der jeweils gültigen Fassung. / in the respective current version. (<https://eur-lex.europa.eu/homepage.html>)*

⁽³⁾ ABl. L 96 vom 29.3.2014, S. 79-106. / OJ L 96, 29.3.2014, p. 79-106.

in der jeweils gültigen Fassung. / in the respective current version. (<https://eur-lex.europa.eu/homepage.html>)*

Grossostheim, 20. September 2022 / September 20th, 2022

02-20.09.22

Wolfgang Nicolaus
Geschäftsführer
Managing Director

Dr. Stephan Schmidt
Beauftragter Produkt Compliance
Regulatory Affairs

Unterszeichnet für und im Namen von / signed on behalf of and in the name of VITLAB GmbH

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten Harmonisierungsvorschriften, beinhaltet jedoch keine Zusicherung von Eigenschaften.
This document declares the accordance with the named harmonized regulations, but does not assure specific properties.

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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 36), 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.

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12. Only authorized service personnel may repair or service the instrument.
 13. The battery must not be replaced with nonrechargeable batteries or rechargeable batteries of other manufacturers (see page 32).

Warning!

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

2. Safety Symbols

Symbol on Device	
	General warning sign
	Observe the operating manual

3. 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.



This sign certifies that the product meets the requirements of the EEC directive and has been tested according to the specified test methods.

4. 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/cm³

5. 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.

6. Storage conditions

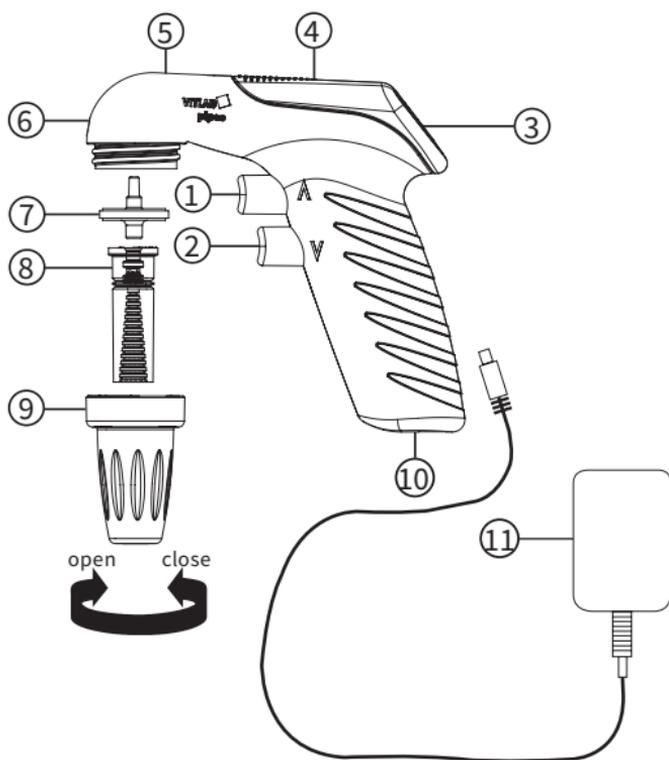
Store instrument and accessories in a cool, dry place.

Storage temperature:

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

7 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

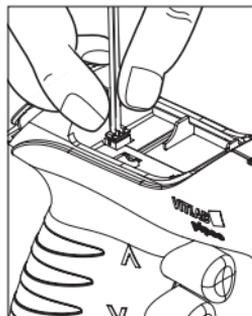


8. Getting started

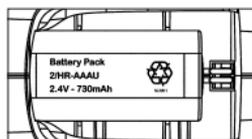
1. Confirm alignment of battery plug and grip the plug by the wire and push it firmly into the socket. Place battery in compartment.

Note:

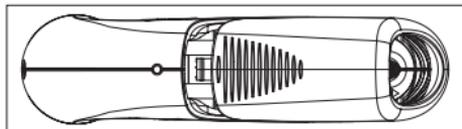
Flashing LED indicates that the battery has to be charged for initial operation (➤ pages 30-31).



2. Take battery compartment cover out of the packaging.



3. Close battery compartment.



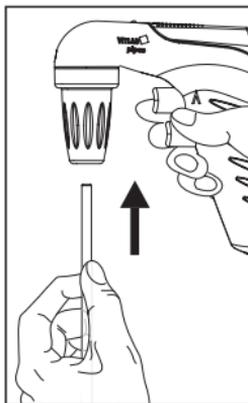
9. Pipetting

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!

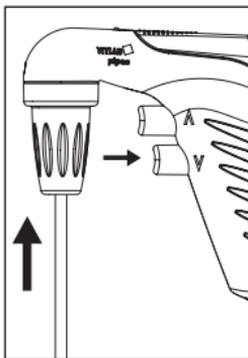
Be sure that the pipette fits tightly into the adapter. Never use force. Thin pipets are particularly liable to break. Avoid the risk of injury!



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.

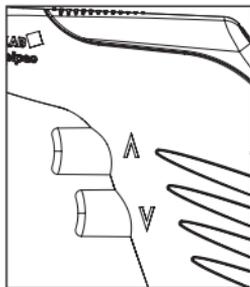


Attention!

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.



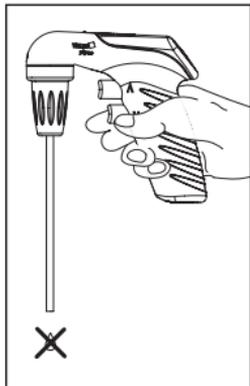
Adjust the volume

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 'Troubleshooting' (> page 36)



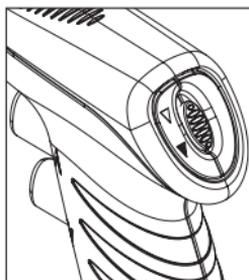
Select mode

Switch up:

▽ Gravity-delivery

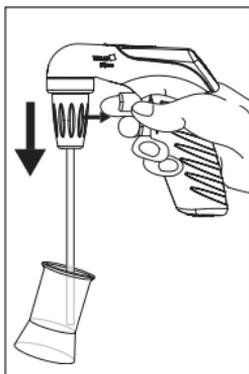
Switch down:

▼ 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.

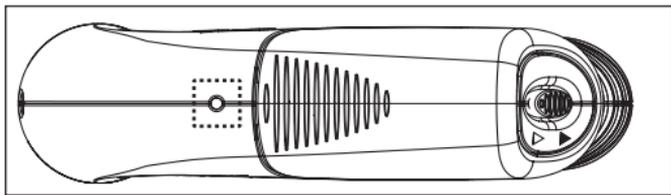


10. Recharging the battery

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 $\pm 10\%$.

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

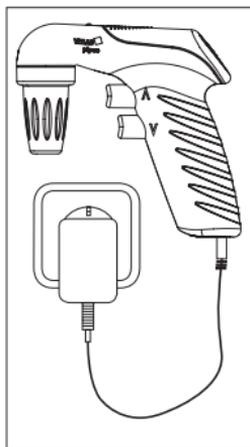


Recharging indicator

- | | |
|---------------------------|----------------------------------------------------------------------------------------------------------------------|
| 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).

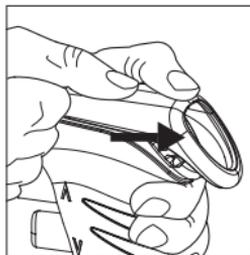
11. Replacing the battery

Warning!

Only use original manufacturer's accessories (page 35). 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.

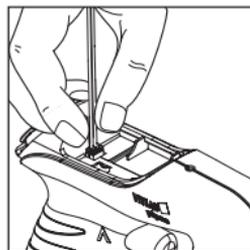
1. To open the battery compartment press at the embossed arrow, position ①, and simultaneously slide cover back.



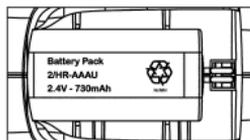
2. Remove the battery.

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 snapping in.



5. Insert new battery and close battery compartment.



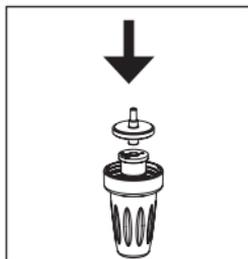
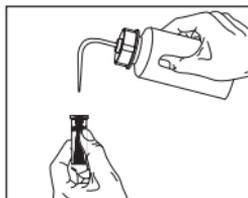
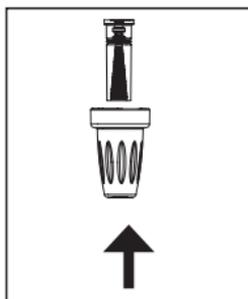
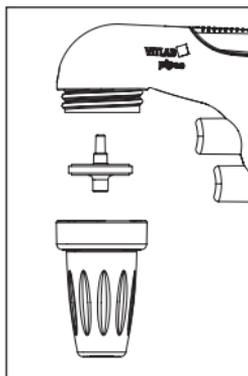
12. Replacing the filter and cleaning the check valve

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).



-
-
- 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.
 - Reassemble the instrument in reverse order and carry out leak test (➤ page 28).

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 35).

13. 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 (s. page 33).

14. Ordering Data

pipeo®- pipette controller with AC adapter,

Included in delivery:

VITLAB pipeo®, battery charger (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.
pipeo®	1631500

15. Accessories and spare parts

	Cat. No.
Battery charger for Continental Europe	1671831
Battery charger for UK/Ireland	1671832
Battery charger for Japan	1671833
Battery charger for Australia	1671834
Battery charger for USA	1671835
Adapter housing	1661281
Silicone adapter with non-return valve	1670203
Spare membrane filter 0.2 µm, sterile (red color code) 1 pc. in blister pack	1670647
Spare membrane filter 0.2 µm, non-sterile 10 pc. in PE-bag	1670648
Spare membrane filter 3 µm, non-sterile 10 pc. in PE-bag	1670650
Nickel-metal hydride battery	1670218
Wall support, grey	1670660

16. Troubleshooting

Trouble	Possible Cause	Action to be taken
Suction capacity impaired	<ul style="list-style-type: none">- Check valve closed- Filter or check valve dirty	<ul style="list-style-type: none">- Set mode selection switch for "power delivery" and press lower button for blow out (> p. 27)- Clean and/or replace check valve (> p. 32-34)
Pipette drips	<ul style="list-style-type: none">- Filter not properly positioned- Adapter or pipette damaged	<ul style="list-style-type: none">- Insert filter properly (> p. 33)- Replace adapter or pipette (> p. 32-34)
Pipette not held properly	<ul style="list-style-type: none">- Adapter dirty or damaged	<ul style="list-style-type: none">- Clean the adapter, allow it to dry and/or replace it (> p.32-34)
After connecting the AC adapter, the LED-display of the instrument flashes or does <u>not</u> light up	<ul style="list-style-type: none">- Battery/AC adapter or Instrument defective	<ul style="list-style-type: none">- Replace battery/AC adapter- Send the instrument in for repair (> p.41)
Recharging procedure not successful, LED-display of the instrument does not light up	<ul style="list-style-type: none">- Battery problem	<ul style="list-style-type: none">- Replace battery (> p. 37)

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

17. Return for Repair

Attention!

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

- Therefore: Clean and decontaminate the instrument carefully.
- Complete the “Declaration on Absence of Health Hazards” (ask your supplier or manufacturer for forms. The forms can also be downloaded on www.vitlab.com) 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.

18. 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.

19. 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.

According to the Directive 2002/96/EC of the European Parliament and of the Council on Waste Electrical and Electronic Equipment (WEEE) of 27 January 2003, electronic equipment requires disposal according to the relevant national disposal regulations.

Batteries contain substances that can have harmful effects on the environment and human health. Therefore according to the Directive 2006/66/EC of the European Parliament and the Council on Waste Batteries of 6 September 2006 batteries require disposal according to the relevant national disposal regulations. Dispose of batteries only when completely discharged.

Warning!

Do not short-circuit the battery to discharge it!

Subject to technical modification without notice. Errors excepted.

DECLARATION OF CONFORMITY

– China RoHS 2



VITLAB GMBH has made reasonable efforts to ensure that hazardous materials and substances may not be used in VITLAB products.

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%
+ Mercury (Hg):	0.1%
+ Cadmium (Cd):	0.01%
+ Hexavalent chromium (Cr(+VI)):	0.1%
+ Polybrominated biphenyls (PBB):	0.1%
+ 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 VITLAB instruments is 40 years.

Material Content Declaration for VITLAB Products

部件名称 Part name	有毒有害物质或元素 Hazardous substances					
	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	0	0	0	0	0	0
塑料外壳 / 组件 Plastic housing / parts	0	0	0	0	0	0
电池 / Battery	0	0	0	0	0	0
玻璃 / Glass	0	0	0	0	0	0
电子电气组件 Electrical and electronic parts	X	0	0	0	0	0
金属外壳 / 组件 Metal housing / parts	X	0	0	0	0	0
电机 / Motor	X	0	0	0	0	0
配件 / Accessories	X	0	0	0	0	0
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/T 26572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 contained in at least one of the homogeneous 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 may have their own EFUP-marking and/or might be maintaining parts with changing EFUP-marking.

除上表所示信息外,还需声明的是,这些部件并非是有用铅 ((Pb), 汞 ((Hg), 镉 ((Cd), 六价铬 (Cr(+VI)), 多溴联苯 ((PBB)) 或多溴二苯醚 ((PBDE)) 来制造的。

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).

Products manufactured by VITLAB may enter into further devices or can be used together with other appliances. With these third party products and appliances in particular, please note the EFUP labeled on these products. VITLAB will not take responsibility for the EFUP of those products and appliances.

Place, date: Grossostheim, 01/06/2022



Wolfgang Nicolaus
(Managing Director)



Dr. Stephan Schmidt
(Regulatory Affairs)

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