

**EU Type Examination Certificate CML 19ATEX2328 Issue 5**

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **Casella VAPex Personal Air Sampling Pump**
- 3 Manufacturer **Casella Holdings Limited**
- 4 Address **Regent House, Wolseley Road  
Kempston, Bedford, MK42 7JY  
United Kingdom**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 Eurofins CML B.V., Chamber of Commerce No 67386717, Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.  
  
The examination and test results are recorded in the confidential reports listed in Section 12.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018

EN 60079-11:2012

- 10 The equipment shall be marked with the following:



II 1 G

Ex ia IIC T4 Ga

Ta = -20°C to +45°C

## 11 Description

The Casella VAPex Pump is a personal air sampling pump typically used to take samples of gases or vapours. It is a body-worn, battery-powered self-contained device housed within a polycarbonate anti-static enclosure. The pump is designed to provide a stable and controlled flow rate of 20 to 500 ml/min such that a known volume of gas is passed through a sorbent tube. Gases and vapour samples are collected on a sorbent tube and are subjected to mass or chemical analysis in a laboratory in order to establish a worker's exposure to potentially hazardous gases. Such sampling pumps are typically worn on the user's belt and are connected to the sorbent tube via a short length of tube.

The equipment shall only be recharged in the safe area using either:

1. VAPex Pump Five Way Charger
2. VAPex Pump Single Way Charger

The chargers must be supplied from a SELV source with  $U_m = 63V$

These chargers shall have an output not exceeding:

$U_m = 6.95V$

$I_{max} = 850mA$

The equipment may be connected via the USB port, to other external equipment in the safe area only. The external equipment shall have an output not exceeding:

$U_m = 5.9V$

$I_{max} = 85mA$

### Variation 1

This variation introduces the following modification:

- i. To permit the use of Samsung INR18650-25R cells in place of the Samsung ICR18650-26F cells, within the battery pack.

### Variation 2

This variation introduces the following modifications:

- i. Alternative CTI's for all PCB's
- ii. Change to IC's to incorporate alternatives
- iii. Change to transistors to all for alternatives
- iv. Changes to component references in the BoM
- v. Inclusion of updated Label drawings with UKEX details

### Variation 3

This variation introduces the following modification:

- i. Update to Applicant/Manufacturer name.

### Variation 4

This variation introduces the following modification:

- i. Correction of typographical errors.

## Variation 5

This variation introduces the following modifications:

- i. Change of the cell type and quantity (two cells are used, where previously there was one).
- ii. Addition of poly-fuses to the battery pack PCB, connected to the positive terminal of each cell.
- iii. Introduction of a replacement Bluetooth module on the display PCB.
- iv. Introduction of an alternative connector option on the display and main PCBs. The existing connector may still be used.
- v. Change to the conformal coating used on the display and main PCBs.
- vi. Addition of components to the display, main and battery pack PCBs.
- vii. Changes to the main, display and battery pack PCBs, and battery pack assembly, to accommodate the above modifications.
- viii. Identification of components which are not fitted on the certified product.
- ix. Introduction of the option to omit some circuit components which are not safety related.

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	14 Aug 2019	R12106A/00	Issue of Prime Certificate
1	27 Feb 2020	R13095A/00	Introduction of Variation 1
2	31 May 2022	R15331A/00	Introduction of Variation 2
3	26 Oct 2022	R15790A/00	Introduction of Variation 3
4	11 Apr 2023	-	Correction of marking and removal of "X" designation from certificate number.
5	21 Nov 2024	R17733A/00	Introduction of Variation 5

Note: Drawings that describe the equipment or component are listed in the Annex.

## 13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components, the manufacturer of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated.

## 14 Specific Conditions of Use (Special Conditions)

None.

## Certificate Annex

**Certificate Number** CML 19ATEX2328  
**Equipment** Casella VAPex Personal Air Sampling Pump  
**Manufacturer** Casella Holdings Limited



The following documents describe the equipment defined in this certificate:

### Issue 0

Drawing No	Sheets	Rev	Approved date	Title
03-214000D/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS Case Body G/A
03-214044C/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS Battery Case Body G/A
93-214013B/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS Battery Pack – Schematic
05-214015B/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS Battery Pack PCB – Parts List
05-214015B/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS Battery Pack PCB – Component Layout
02-214014C/IS-02	1 of 1	2	14 Aug 2019	VAPEX/IS Battery Pack PCB – Profile & Drilling
93-214007D/IS-01	1 to 2	1	14 Aug 2019	VAPEX/IS Main Board – Schematic
05-214009C/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS Main Board PCB – Component Layout
05-214009C/IS-01	1 to 2	1	14 Aug 2019	VAPEX/IS Main Board PCB – Parts List
02-214008C/IS-02	1 of 1	2	14 Aug 2019	VAPEX/IS Main Board PCB – Profile & Drilling
93-214010B/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS Display Board – Schematic
05-214012B/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS Display Board PCB – Component Layout
05-214012B/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS Display Board PCB – Parts List
02-214011B/IS-02	1 of 1	2	14 Aug 2019	VAPEX/IS Display Board PCB – Profile & Drilling
93-214021C/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS 1-Way Charging Unit – Circuit Diagram
04-214020B/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS 1-Way Charging Unit GA
05-214023B/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS 1-Way Charging Unit PCB – Component Layout
05-214023B/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS 1-Way Charging Unit PCB – Parts List
02-214022B/IS-02	1 of 1	2	14 Aug 2019	VAPEX/IS 1-Way Charging Unit PCB – Profile & Drilling
93-214025C/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS 5-Way Charging Unit – Circuit Diagram
04-214024C/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS 5-Way Charging Unit GA

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Drawing No	Sheets	Rev	Approved date	Title
05-214027C/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS 5-Way Charging Unit PCB – PCB Layout
05-214027C/IS-01	1 of 1	1	14 Aug 2019	VAPEX/IS 5-Way Charging Unit PCB – Parts List
02-214026C/IS-02	1 of 1	2	14 Aug 2019	VAPEX/IS 5-Way Charging Unit PCB – Profile & Drilling
13-214053A/IS (CMLEX)-01	1 of 1	1	14 Aug 2019	Certification Label
13-214054A/IS (CMLEX)-01	1 of 1	1	14 Aug 2019	Certification Label

### Issue 1

Drawing No	Sheets	Rev	Approved date	Title
03-214044C/IS-02	1 of 1	2	27 Feb 2020	VAPEX/IS Battery Pack G/A

### Issue 2

Drawing No	Sheets	Rev	Approved date	Title
05-214015B/IS-02	1 of 1	02	31 May 2022	Vapex/IS Low Flow Pump Battery Pack PCB S/A
02-214011B/IS-03	1 of 1	03	31 May 2022	Vapex/IS low Flow Pump Display PCB Profile & Drilled
02-214008C/IS-03	1 of 1	03	31 May 2022	Vapex/IS Low Flow Pump Main PCB Profile and Drilled
02-214014C/IS-03	1 of 1	03	31 May 2022	Vapex/IS Low Flow Pump Battery Pack PCB Profile and Drilled
05-214009C/IS-02	1 of 1	02	31 May 2022	Vapex/IS Low Flow Pump Main PCB S/A
05-214009C/IS-02	1 to 2	02	31 May 2022	Vapex/IS Low Flow Pump Main PCB S/A
05-214012B/IS-02	1 of 1	02	31 May 2022	Vapex/IS Low Flow Pump – Display PCB S/A
05-214012B/IS-02	1 of 1	02	31 May 2022	Vapex/IS Low Flow Pump Display PCB S/A
93-214010B/IS-02	1 of 1	02	31 May 2022	Vapex/IS Low Flow Pump Display PCB Circuit Diagram
93-214007D/IS-02	2 of 2	02	31 May 2022	Vapex/IS Low Flow Pump PSU & Motor Drive CCT

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Drawing No	Sheets	Rev	Approved date	Title
93-214013B/IS-02	1 of 1	02	31 May 2022	Vapex/IS Low Flow Pump Battery Pack Circuit Diagram
93-214007D/IS-02	1 of 2	02	31 May 2022	Vapex/IS Low Flow Pump $\mu$ PRO & Peripherals CCT
05-214015B/IS-02	1 of 1	02	31 May 2022	Vapex/IS Low Flow Pump Battery Pack PCB S/A
13-214053A/IS(cmlEX) - 02	1 of 1	02	31 May 2022	Vapex/IS – Information/SN Label (RH)
13-214054A/IS(cmlEX) – 02	1 of 1	02	31 May 2022	Vapex/IS – Information Label (LH)

### Issue 3

No documents introduced

### Issue 4

No documents introduced

### Issue 5

Drawing No.	Sheets	Rev	Approved date	Title
93-214010B/IS-04	1 of 1	04	21 Nov 2024	Vapex/IS Low Flow Pump Display PCB Circuit Diagram
02-214011B/IS-05	1 of 1	05	21 Nov 2024	Vapex/IS low Flow Pump Display PCB Profile & Drilled
05-214012B/IS-04	1 of 1	04	21 Nov 2024	Vapex/IS Low Flow Pump – Display PCB S/A [PCB]
05-214012B/IS-04	1 of 1	04	21 Nov 2024	Vapex/IS Low Flow Pump Display PCB S/A [BOM]
93-214128B/IS-02	1 of 1	02	21 Nov 2024	Vapex/IS Low Flow Pump Display Board Circuit Diagram
02-214129B/IS-02	1 of 1	02	21 Nov 2024	Vapex/IS low Flow Pump Display Board Profile & Drilled
05-214130B/IS-02	1 of 1	02	21 Nov 2024	Vapex/IS Low Flow Pump – Display Board PCB S/A [PCB]
05-214130B/IS-02	1 of 1	02	21 Nov 2024	Vapex/IS Low Flow Pump - Display PCB S/A [BOM]
93-214007D/IS-04	1 of 2	04	21 Nov 2024	Vapex/IS Low Flow Pump $\mu$ PRO & Peripherals CCT

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Drawing No.	Sheets	Rev	Approved date	Title
93-214007D/IS-04	2 of 2	04	21 Nov 2024	Vapex/IS Low Flow Pump PSU & Motor Drive CCT
02-214008C/IS-05	1 of 1	05	21 Nov 2024	Vapex/IS Low Flow Pump Main PCB Profile and Drilled
05-214009C/IS-04	1 of 1	04	21 Nov 2024	Vapex/IS Low Flow Pump Main PCB S/A [PCB]
05-214009C/IS-04	1 to 2	04	21 Nov 2024	Vapex/IS Low Flow Pump Main PCB S/A [BOM]
93-214125D/IS-02	1 of 2	02	21 Nov 2024	Vapex/IS Low Flow Pump Main PCB $\mu$ PRO Stage Circuit Diagram
93-214125D/IS-02	2 of 2	02	21 Nov 2024	Vapex/IS Low Flow Pump Main PCB Motor Drive + PSU Stage Circuit Diagram
02-214126C/IS-02	1 of 1	02	21 Nov 2024	Vapex/IS Low Flow Pump Main Board Profile & Drilled
05-214127C/IS-02	1 of 1	02	21 Nov 2024	Vapex/IS Low Flow Pump Main Board PCB S/A [PCB]
05-214127C/IS-02	1 to 2	02	21 Nov 2024	Vapex/IS Low Flow Pump Main PCB S/A [BOM]
93-214120B/IS-01	1 of 1	01	21 Nov 2024	Vapex/IS Low Flow Pump Battery Pack Circuit Diagram
02-214121C/IS-01	1 of 1	01	21 Nov 2024	Vapex/IS Low Flow Pump Battery Pack PCB Profile & Drilled
05-214122B/IS-01	1 of 1	01	21 Nov 2024	Vapex/IS Low Flow Pump Battery Pack PCB S/A [PCB]
05-214122B/IS-01	1 of 1	01	21 Nov 2024	Vapex/IS Battery Pack PCB S/A Parts List [BOM]
03-214136C/IS-01	1 of 1	01	21 Nov 2024	Vapex/IS – Battery Pack S/A (Pouch Cells)
03-214000D/IS-02	1 of 1	02	21 Nov 2024	Vapex/IS – Case Body G/A