CASELLA
A DIVISION OF TSI

Vortex™ 3E

High Flow Air Sampling Pump

The enhanced ***Vortex™*** 3E pump delivers exceptional flow rate accuracy, extended service life, and intelligent connectivity via the Airwave app. It features a new long-life brushless motor that reduces ownership costs, along with advanced environmental compensation sensors for reliable flow control in asbestos sampling.



Key Features

- High-Flow rate (5-12 L/min)
- Long battery life (5 hours at 12L/min)
- Impressive back pressure capability
- Long life & efficient brushless motor
- Full colour OLED display
- Rugged IP65 design
- Mains and battery powered
- Inlet pressure monitored to establish filter loading
- Case finish enables easy decontamination
- Flow accuracy better than +/-5% to exceed flow stability requirements of ISO 13137
- An interlocking mechanism enabling multiple pumps to be carried at once
- External pressure & internal temperature sensors used to improve flow rate accuracy
- Compatibility with the Airwave App for easy remote monitoring

Improved Flow Rate Accuracy

Achieve greater confidence in every sample with enhanced flow rate accuracy of better than ±5%. The pump's advanced flow control system combines external pressure sensors, an internal air temperature sensor, and intelligent compensation algorithms to continuously monitor and correct for changing environmental conditions. This innovative technology automatically maintains the set flow rate, even as ambient pressure and temperature fluctuate, delivering more reliable and repeatable sampling results. The result is improved data quality and reduced uncertainty in critical workplace and environmental monitoring applications.

Lower Cost of Ownership with Long-Life Brushless Motor Technology

Designed for maximum reliability and minimum maintenance, the new high-efficiency brushless motor extends the pump's service interval to in excess of 4,000 hours, by eliminating the wear associated with conventional brushed motors. The pump requires fewer service interventions, reduces maintenance costs, and minimizes instrument downtime. Users benefit from longer operating life, increased productivity, and lower lifetime ownership costs, making the pump a smart investment for organisations that depend on reliable, high-performance air sampling equipment day after day.



The mast and sampling tube are fitted to the pump during use and transportation



Intuitive menu navigation



OLED full colour display with Red/ Blue LEDs to indicate pump status, visible from a distance



Use Casella's Airwave App on a mobile device to remotely control and monitor multiple pumps at once.

Get Connected

There are two models available: ***Vortex™*** 3E pump and ***Vortex™*** 3E Pro pump. With a number of advanced functions for each model to meet different user requirements. The ***Vortex™*** 3E Pro high-flow air sampling pump has Bluetooth® connectivity capabilities allowing for remote control and monitoring with our Airwave App. The paired device can then control and check the pump's status and measurement progress without having to go to the pump itself.

(Airwave is available for free in the Apple App Store and Google Play Store)

Applications

Suitable for area and environmental monitoring including applications such as biosampling, indoor air studies, asbestos monitoring and long-term background monitoring.
Users would typically include; building contractors, occupational hygiene personnel to establish the presence of asbestos and other contaminants in domestic, commercial and industrial environments.

"The need to set up multiple pumps, in multiple areas on site is key and the ability to carry a number of pumps at the same time saved us time and effort"

Interlocking Design

The ***Vortex™*** 3E and ***Vortex™*** 3E Pro sampling pumps have a unique, patent-pending interlocking carrying mechanism, which means that several units can be connected together making it easy to carry them to and from site.

Carrying up to four pumps at the same time is easy with the Vortex 3E pump.



Lightweight Ergonomic Design

- Weighs only 2.33kg (5.14lbs)
- Comfortable ergonomic carrying handle
- Made from ABS, the Vortex 3E is built for strength and durability
- IP65 housing that is easy to clean and decontaminate with water
- No small crevices to trap dirt, for easier decontamination

Simple Operation

The Vortex 3E pump has an easy to use four button operation with LED lights for clear visibility of the pump's status.

- Clear display showing battery life at any time
- Quick set up options for all stages of a run
- Time or volume sample runs achievable with Vortex 3E Pro
- Multilingual operation
- Lockable key pad providing security during surveys

The Vortex 3E is an ideal device to be used for personnel carrying out sampling surveys trained to RP402 level by BOHS.

Stored Data

From the Casella Airwave dashboard view you can download air sampling runs stored on the Vortex 3E pump, and also make notes on your sampling activity. Highlighting individual sampling runs also provides the opportunity to copy the results to a clipboard and create email options to assist with sampling record maintenance and circulation.

Download Data

- Ability to view the Vortex 3E Pro pump memory
- Emailing of results in a report format
- Input site data directly
- Location stamp

Operate Remotely

- 25m range
- iOS or Android platforms supported
- View run information in real-time
- Confirmation of operation remotely

Equipment Details	
Device	Casella Vortex3
Serial Number	4813557
Firmware Revision	217.009.09.09
Battery Remaining	74 %
Service Life	33 Hours
Site Details	
Analyst Name	John Smith
Site Name	Casella
Job ID	Workshop
Sample ID	Sample 1
Location	Google Maps
Run Data	
Run Mode	Manual
Stop Mode	Manual
Start Date & Time	23 Jan 2025 at 09:38:51
End Date & Time	23 Jan 2025 at 14:53:47
Duration	05:14:56 (HH:MM:SS)
Flow Rate	8.0 L/m
Volume Sampled	2519.20 L
Inlet Pressure (Start)	0.0 kPa
Inlet Pressure (End)	8.1 kPa
Temperature (Start)	48.2 Deg.F
Temperature (End)	80.6 Deg.F
Temperature (Avg.)	77.4 Deg.F
Flow Faults	0

Technical Specification

Flow Performance

Flow Range L/min:	5 to 12
Flow Control:	Better than ± 5% at calibrated point
Fault Detector:	Detects blockages with a selectable number of automatic restarts up to 10 times.
Compliance:	Flow performance compliant with ISO 13137
Service Life:	Long pump service life in excess of 4000 operating hours.

Physical

Display:	Colour OLED
Controls:	4 buttons
Status Indicators:	Red/Blue LED
Dimensions:	316 x 170 x 116mm (12.44 x 6.69 x 5.56 inches)
Weight:	2.33kg (5.14lbs)

Environmental

Temperature:	Operation, 0 to 40°C Storage, -10 to 50°C
Humidity:	30-95% RH (non-condensing)
Barometric Pressure:	Automatic-correcting
Ingress Protection:	IP65

Electrical

Battery Type:	Li-ion
Battery Level Indicator:	% or hours (Pro Model)
Charge Time:	Typically <6 hours

Flow Rate (L/min)	Typical Back Pressure (cm H_2O)	Typical Battery Life (Hours)	Sample Volume (Litres)
12	180.5	5	3,600
10	159.3	7	4,200
8	125	10	4,800
6	95	20	7,200

Test with 25mm 0.8µm MCE filter. Filter back pressures can vary which will change battery life.

Ordering Information

VORTEX 3E	Vortex3E Standard Pump
VORTEX 3E PRO	Vortex3E Pro Pump

All pumps include 1.8m tube, Field Guide, Power supply (PC18) and a Certificate of Calibration and Conformity.

CM362	Rotameter 1-20L/min
P110004	Calibrator Adaptor- Cowled Head
217002B	Spare Telescopic Mast
PC18	Power Supply

Model Selection

	Standard	Pro
Flow Range (5 -12 L/min)	•	•
Flow Control +/-5%	•	•
Battery & Mains Powered	•	•
Run Duration Timer	•	•
Ambient Pressure	•	•
Internal Temp	•	•
Bluetooth		•
Battery Gauge (Hours)		•
Back Pressure Indicator		•
Remote Start/Stop		•

Related Products

A rotameter (CM362) can be used for field calibration checks. Other flow meters are available.



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