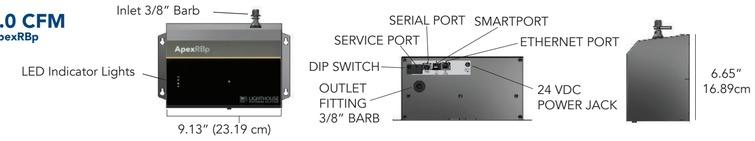
1.0 CFM
ApexRBp



TECHNICAL DATASHEET

ApexRBp Airborne Particle Counter

Features / Models	ApexRBp
Minimum Size Detection	5.0 µm
Standard 2 channel sizes	N/A
Optional 4 channel sizes	5.0, 10.0, 50.0, 100.0 µm
Additional Available sizes	20.0, 25.0, 30.0 , 40.0 µm
Flow Rate / Nozzle Size	1 CFM (28.3 LPM), 3/8" inlet
Weight	6.3 lbs (2.9 kg)
Concentration Limits	1,000,000 Particles/ft3@10% coincidence loss suitable for ISO classes 1-8 cleanrooms
Dimensions	6.65"(h) x 9.13"(w) x 4.75"(d) [16.89 x 23.19 x 12.06 cm]
Communication	Ethernet, Serial or Wireless
Modbus Protocols	TCP or RTU or ASCII
Data Storage Records	3,000
Self Diagnostics	Laser power supply, laser current, laser power, photo detector power supply, background voltage, photo detector health.
Web Server	Remote access via web browser
Validation Mode	Yes
Alarm Light	Yes
Enclosure	316L Stainless Steel
Power	24 VDC 120W
Internal Vacuum Pump	1.0 CFM
Light Source	Extreme Life Laser Diode
Calibration	ISO 21501-4 Compliant
Zero Count Level	< 1 Count / 5 minutes (meets specifications of JIS B 9921 and reporting requirements of ISO 21501-4 Annex C)
Software	LMS Pro or LMS Xchange

Includes Power adapter and power cord, Operators Manual on USB flash drive, Calibration Certificate

Optional Temperature & humidity probe, Wall Bracket, Smart Bracket, Isokinetic sample probe, Printed operators manual

MADE IN USA

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LIGHTHOUSE WORLDWIDE SOLUTIONS

ApexRBp

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LIGHTHOUSE WORLDWIDE SOLUTIONS

ApexRBp

AIRBORNE PARTICLE COUNTERS

LIGHTHOUSE WORLDWIDE SOLUTIONS

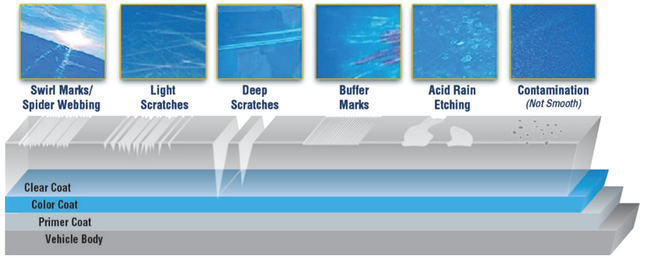
Ensuring Quality Control

In the Automotive Painting Process

Particle Contamination in Automotive Painting

Continuous monitoring for unwanted particle contamination is essential to ensure the quality finish needed in automotive paint. Apex RBp helps you identify potential particle intrusion before it causes paint defects. Particles can come from many areas, including:

Dust from Sanding | Poor Quality Masking Paper | Clothing Fibers | Skin Cells
Inadequate Filtration of Air | Unbalanced Cleanrooms | Contaminated Airlines



The Critical Role of Particle Contamination Control

Importance of Monitoring and Control: Using advanced particle detection control systems in painting environments is crucial to prevent such risks before they delay your production line. We've spent decades working with needs of the semiconductor and pharmaceutical manufacturing to perfect our approach - and now we have created the Apex RBp specifically to address the needs of the auto industry.

ApexRBp

Revolutionizing Particle Monitoring in Automotive Manufacturing

Features and Capabilities:

- **Four-Channel Particle Detection**: Equipped to detect particle sizes of 5.0, 25.0, 50.0, and 100um, offering comprehensive monitoring.
- **Precision Monitoring**: High accuracy in detecting a wide range of particle sizes, crucial for maintaining battery integrity.
- **Simple Integration**: Designed for easy integration into existing manufacturing processes, including options for wireless connectivity.

Meets Automative Needs:

- **Meeting Stringent Cleanroom Standards**: Essential for environments where even minute particles can impact performance.
- **Real-Time Data and Analysis**: Offers immediate feedback on environmental conditions, enabling prompt corrective actions.

Enhancing Quality Control:

- **Ensuring Battery Safety & Efficiency**: Continuous monitoring helps prevent contamination that can lead to paint defects and EV battery failure.
- **Compliance with Industry Standards**: Assists in meeting regulatory requirements for battery manufacturing.

User-Friendly and Reliable:

- **Designed for Operational Ease**: User-friendly interface and robust design for consistent, long-term use.
- **Trustworthy and Efficient**: A reliable tool for maintaining high standards in battery production.

Providing Vital Solutions

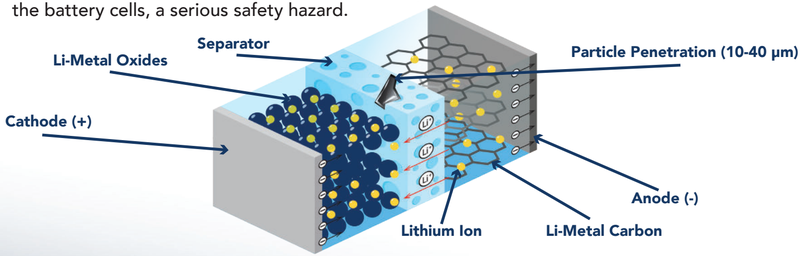
Ensuring Safety and Efficiency in EV Battery Production

Particle Contamination in EV Battery Manufacturing

Particle contamination during battery manufacturing refers to the presence of unwanted microscopic particles which adversely affect battery performance and safety. Here are some key areas to consider.

Impact on Battery Performance: Small particles can significantly impact the efficiency and longevity of lithium-ion batteries, as contaminants interfere with the electrochemical processes leading to reduced capacity.

Safety Risks: Particles as small as 10 micrometers can penetrate separators (10-40 micrometers thick) between the anode and cathode. This penetration can cause internal shorts within the battery cells, a serious safety hazard.



Potential for Thermal Runaway and Fires: Battery shorts due to particle contamination can lead to thermal runaway, a condition where the battery overheats and can potentially ignite. In severe cases, this can result in battery fires, posing significant risks in EVs.