

White paper

Boost Component Integrity with Piab's ESD Cups in Battery and Fuel Cell Production

In the dynamic and ever-evolving landscape of the manufacturing industry, sectors specializing in the production of batteries and fuel cells are experiencing unprecedented growth. This growth is largely driven by the global shift towards renewable energy sources and the increasing demand for electric vehicles (EVs). However, the manufacturing process of batteries and fuel cells does not come without challenges; electrostatic discharge poses a significant challenge and risk to the sensitive electronic components used in these sectors.

Stockholm, Sweden – The battery manufacturing industry is at the forefront of the transition to renewable energy and electric mobility. As demand for high-capacity, efficient, and reliable batteries increases, so does the need for manufacturing processes that ensure the integrity and performance of these critical components.

Similarly, the fuel cell manufacturing industry is gaining momentum as a provider of clean energy solutions, particularly for transportation and stationary power systems. Both industries rely heavily on sensitive electronic components that can be damaged by Electrostatic Discharge (ESD), leading to product malfunctions or failures, increased scrap rates, and higher production costs.

ESD challenges in manufacturing. Electrostatic Discharge can represent a significant challenge for the manufacturing industry. ESD occurs when there is a sudden release of static electricity caused by contact or an electrical short between two differently charged objects. This phenomenon becomes particularly problematic in manufacturing environments involving batteries, fuel cells, and electronic components, where the integrity of the products is paramount.

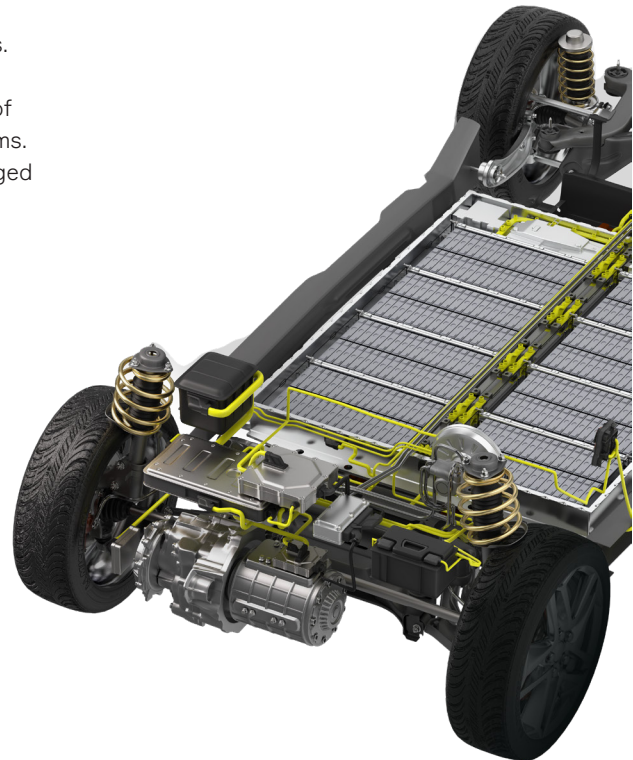
ESD can cause immediate component failure, leading to costly rework and increased scrap rates. It can also create latent defects that reduce the reliability and lifespan of electronic components and products.

For more information

Piab AB, Danderyd (HQ), Sweden
+46 (0)8 630 25 00,
info-sweden@piab.com
www.piab.com

About Piab

Piab is evolving automation through progressive gripping, lifting, and moving solutions and has done so since 1951. We believe in an automated world, where no resources are wasted, and no humans are injured. With annual sales of ~ 3.1 billion SEK, 1200+ employees and a global presence in more than 100 countries, we help our customers improve their operations for the better daily. Since 2018, Piab is owned by Patricia Industries, part of Investor AB.

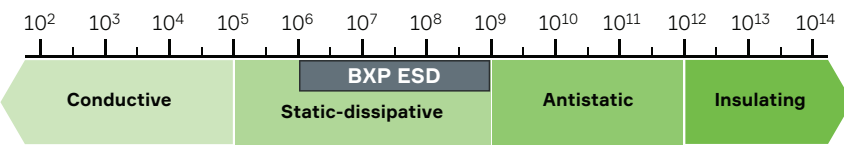


The need to find ESD protective gripping solutions.

Recognizing the need for innovative solutions to mitigate these risks, Piab Vacuum Automation Division introduces the BXP ESD cups. This series is developed with the goal to reduce operational costs and protect components that may be susceptible to ESD. It is built on the popular BXP series by Piab, yet is designed further simplify the handling of ESD sensitive components. Like the BXP series, the cups provide stability and durability.

However, the material is further developed to provide ESD protective characteristics to the cup.

Surface resistance range to ground in ohm (Ω)



The material features a surface resistance range of $10^6 \Omega$ (ohm) to $10^9 \Omega$ (ohm) to ground and is in the range called static-dissipative resistance range. This range allows for controlled discharge of electrostatic charges from cup to ground, instead of being isolating or allowing for too quick discharges to occur, as that can cause damage to the products.

To conclude; as the demand for advanced energy solutions like batteries and fuel cells grows, so does the need for manufacturing processes that prioritize both efficiency for the manufacturer and the integrity of the products. Piab's BXP ESD suction cups offer an innovative solution to the issue of ESD, ensuring that sensitive components are handled with the utmost care. By integrating advanced materials and thoughtful design, Piab continues to support the industry to overcome challenges in manufacturing.

For more information on how Piab's BXP ESD suction cups can enhance your manufacturing processes, visit Piab's website.

