

## Proven Technology for Adhesive Dispensing and Fluid Filling in Electric Vehicles







One-stop-solution for

**Mixing and Dispensing** 

**Bonding and Sealing** 

Fluid Filling Systems



# Full-range of Solutions for Electric Vehicles

Break the 's' curve with us!

The range of electronic controls in an automotive is increasing rapidly. With the Electric Vehicles the scope only expands further. Twin Engineers is a technology partner to several of the world's leading automotive manufacturers. As these companies begin their endeavour to switch to the Electric Vehicles. Twin Engineers continues to be valuable partner to enable this change.

Simultaneously, Twin Engineers is also engaged with several niche parts and vehicle manufacturers who are setting new waves in the fast evolving EV technology spectrum.



#### Machines for R&D to production line automation

Whether you are experimenting and testing a process at labscale or have perfected it for full-scale, we have got the right machine for you



## Advanced and flexible systems

With Industry 4.0 ready machines, easy integration with advanced robotic dispensing and modular designs, Twin's solutions for EVs come with advanced features and high flexibility for your evolving needs.



#### One-stop-solution

Twin Engineers is one of the few companies globally, to offer dispensing technology across mixing, sealing and filling processes for adhesives, sealants and EV fluids. It means a one-stop-solution no matter what is the process.



## Proven technology in EVs

From understanding the chemistry of adhesives and sealants to filling of specialised fluids, Twin Engineers has proven technology for multiple processes in Evs

## Twin with leading material manufacturers

As performance requirements are unique, specialist sealant and adhesives are being developed. Twin's team works closely with 35+ material manufacturers to develop advanced dispensing technology for the specialised materials in EVs.



#### LED Lights

Production of LED lights for automotive requires fast yet easy automation. Twin's technology for LEDs includes potting for LED Drivers, LED light strips of various sizes. With accurate mixing ratio and appropriate automation, Twin's machine work as a productivity powerhouse in production of LED Lights.

#### **Battery Packs**

EVs use high voltage battery units that need sealing and bonding at various stages. From pasting the battery packs to the EVs to applications of various pastes or circulation of fluids to ensure thermal management of these batteries, Twin Engineers has the technology at every stage.

#### **Electric Motors**

Dispensing of 2 Part Epoxy inside the cavity of the rotor holding the magnets is important to functioning of the motors such as Impregnated permanent magnet motors or Switch reluctance motors. The sealing operation prevents the magnets from displacement under the rotational forces inside the motor. Twin's Machines ensure accurate filling of quantity, mixing ratio accuracy that are highly critical to ensuring the proper functioning of the EV motor.



#### **Power Electronics**

Twin's advanced vacuum potting technology ensures permanent protection long lasting, and reliable performance of a variety of power electronic components used in EVs. Starting from **DC Converters** to advanced **Capacitors**, Twin Engineers has the solution with multiple automation options for your specific applications.

#### Sensors

The high-end EVs in the market could use anywhere between 100 to 250 sensors in it. Starting from the regular parking sensors to highly advanced sensors used in thermal management of batteries, Twin Engineers can provide solution for all kinds of sensor applications for the EVs. Twin has specialist machines for microdispensing and high volume production of sensors used for various applications in Evs.

#### **Charging Stations**

The outdoor charging station plugs are exposed to highly adverse environment. The charging facility has to function safely no matter the ambient temperature, moisture level or dust and other form of pollution. The potting of chargers is critical to ensuring a long life and seamless performance of these stations. Twin Engineers has fully automatic vacuum potting stations that are ideal for resin dispensing in the EV Station chargers.

### Partner with Twin to Explore New Possibilities

Electric Vehicles are disruptive in more ways than we think. It's not just the change of fuel, but a re-engineering of an entire value chain. From a mixing and dispensing technology view, adhesives will replace the traditional welded and riveted parts in the electric vehicles. At the same time, there is a demand for serving several new

applications such as sealing in batteries, specialised dispensing in rotor motors, adhesive dispensing in composite or new age materials and much more. For the last few years, Twin Engineers has enabled several applications for the Electric Vehicles using cuttingedge solutions.

#### **Our Approach**



Understanding Product and Application



Study Process and Material



Trials with actual materials



Configure Machines, Process Layout



Training and pilot-run at customer premises



Full-scale commissioning for production

Twin has been a partner to develop mixing and dispensing technology to some of the largest OEMs and Suppliers of Electric Vehicles in India. If you are looking for an expert partner in developing parts or components for Electric Vehicles that use sealants or adhesives, speak to one of Twin's representatives to explore new possibilities.



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