

Application Spotlight

Adhesive process E-battery bonding

ADHESIVE PROCESS E-BATTERY BONDING IN THE AUTOMOTIVE INDUSTRY

Technical Data

Medium:	Thermal conductive adhesive
Temperature:	approx. +20 °C up to +40 °C [+68 °F up to +104 °F]
Pressure:	40 - 80 bar (g) [580 - 1,160 psi]
Measuring range:	0.12 - 7.75 ml/s
Viscosity at 20 °C:	270,000 - 300,000 cp
Density at 20 °C:	1,15 - 1,55 kg/l

Application

The replacement of conventional combustion vehicles by electric vehicles is revolutionizing the automotive sector significantly. A core requirement for electromobility is the provision of efficient and reliable battery technologies.

The lithium batteries used in electric vehicles are based on battery stacking technology. In this process several lithium batteries are connected in series to form a power battery (cell). To form a module, the cells are connected in series. Several modules in parallel form a battery pack with high energy density and range. This assembly process not only meets the specifications of the battery, but also requirements for heat dissipation, strength and low weight. To improve the thermal conductivity, a quantity of fillers such as SiO₂, Al₂O₃ with a filler content of 30 - 70 % is added. The adhesive tape must be dimensionally stable and resistant to particle abrasion. The reliable operation at high viscosities and large media particles poses a corresponding challenge to the flow measurement technology. High measuring range dynamics, long-term stability and high reproducibility must be guaranteed.

Solution

The high-resolution KEM Helical Flow Meter (SRZ series) is the ideal solution. It meets the quality standard for the production processes through a bearing concept specially adapted to the requirements, long-term stability and high reproducibility.

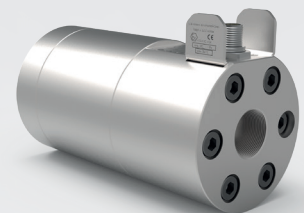
Advantages

- 50 years of experience in high-end applications
- Very fast response time
- High measuring accuracy, high resolution
- High quality materials
- Suitable for highly viscous and highly abrasive media
- Suitable for the toughest applications (special bearing concept)
- Compact design (simple system integration)



Certificates:

- Pressure Equipment Directive 97/23/EC, 2014/68/EU
- HPO - Certification
- Explosion protection according to 2014/34/EU
- CSA/UL - Certification
- Accreditation according to ISO 17025



KEM Helical Flow Meter
(SRZ High Resolution Series)