Laser welding head

System Engineering for the battery industry
Advantages

Adjustable seam geometry width and energy insertion through beam forming and shaping.

- Flexible seam geometry by frequency modulation at the deflection mirror; beneficial for e.g. corners and other geometry or material changes, tack welds
- Switch between different patterns on the fly
- Extension of the effective seam area (for lower electrical resistance and higher mechanical strength)
- Precise heat input for ultra-high strength steels (weldability)
- Increase of the transverse tensile strength (enhanced durability by even stress distribution) and minimizing of distortion
- Weldability of steel, stainless steel, Cu- and Al-Alloys and their combinations (sample welding can be performed in-house)
- The seam tracking system allows the direct beam positioning at the seam during the welding in order to adjust to part tolerances

Technical specifications

Head connected to laser source by fiber optics and mounted on robot or other axis system.

- Laser power: ≤ 8 kW
- High process speed: ≤ 200 mm/s, depending on robot or machine
- High efficiency Circular-Jet concept
  - long protective glass lifetimes
  - reduced air consumption and higher welding speed compared to standard Cross-Jets
- Connection to different field bus systems
- Protective glass cartridge, monitored
- Options:
  - camera monitoring
  - process observation
  - single sided pressure tool
  - seam tracking

Scopes of Application

- Can welding
- Tab welding
- Welding of pressure frame
- Contacting Board welding
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