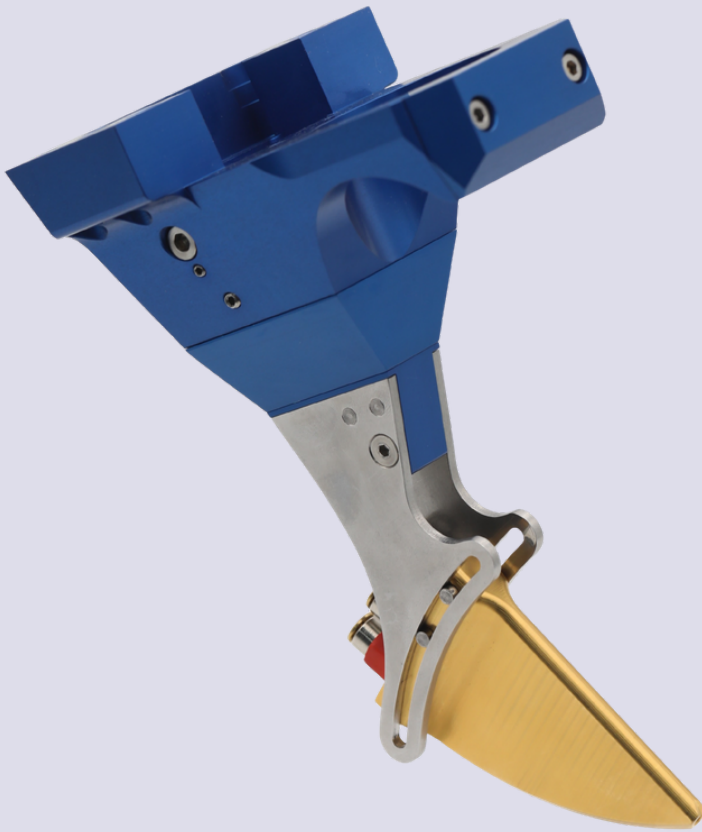




## Off-Axis-Powder Nozzle

### Off-Axis-Powder Nozzle

The off-axis powder nozzle is a powder feeding system for laser cladding. It was specifically developed for laser cladding processes where component geometries, installation situations, or component access restrict the use of conventional coaxial nozzles. It enables directed powder feeding from a lateral position, thus opening up new possibilities for processing hard-to-reach areas.

Its freely adjustable positioning in the X, Y, Z and C axes allows for highly flexible alignment of the powder gas jet onto the melting area.

The spatial decoupling of the laser optics and the powder flow represents a significant advantage of the off-axis powder nozzle. Since the powder flow is introduced laterally into the process, the optical unit remains outside the direct powder path. This significantly reduces the risk of contamination or damage to the optics, contributing to greater process stability, reduced maintenance, and an overall more robust system design.

- Lateral powder delivery (off-axis) instead of coaxial delivery
- Access to difficult-to-reach or shaded geometries
- Freely adjustable injection direction (X/Y/Z + C-axis)
- Decoupling of optics and powder flow