



Fully enclosed large-scale LMD system

Trumpf DMD505

Laser metal deposition system incorporating 1.8kW CO₂ laser and five-axis gantry system for processing large components

Features and benefits

- Equipped with TWI ToolCLAD™ CAM software (developed by TWI) for the generation of a 3+2 axis toolpath direct from CAD data for the manipulation of the nozzle (xyz) and CNC table (rotation and tilt)
- Argon gas, supplied from an Air Products tank and distributed through a Cryospeed system, is used for “through the nozzle” workpiece shielding and for the powder carrier gas
- Large build envelope
- Interchangeable nozzles for a variety of applications (co-axial, three-beam, side feeder)

Some applications

- Repair of mould tool surfaces
- Repair of high-value parts such as aero engine components and military vehicles
- Tipping of turbine blades with protective coatings
- Surfacing of oil and gas drilling components
- Manufacture of large-diameter and thin-walled annular rings
- Additive manufacturing

Technical specification

- Trumpf 1.8kW HQ CO₂ laser
- Five-axis single-cantilever Cartesian gantry system with a processing envelope of 2m(x) x 1.1m(y) x 0.75m(z)
- Nikken 5AX-400ZA two-axis CNC positioning table (rotation and tilt capability) with Sinumerik 840D Siemens controller (capable of controlling all seven axes)
- Oerlikon Metco dual hopper 10-C powder feeder with 1.5-litre capacity per hopper and temperature-controlled heating jacket

