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Laser Hardening / Cladding(remanufacturing) for metal parts

- **Overview**

Laser hardening / cladding (remanufacturing) is an advanced green manufacturing technology.

Using laser beam as energy source, it can make service life longer and improve performance to the products and parts by coating a metal material which is resistance of high temperature, oxidation, corrosion and wear. It also can reduce the cost of manufacturing and machining. It has broad prospect in Iron and steel, metallurgy, electric power, aviation, petrochemical, energy and other areas.

- **Solution**

Metallurgy \ Die \ Coal \ Machining \ Petrochemical Industry \ light industry \ Energy \ Transportation \ Military project and so on.

Direct Diode Laser Flexible Manufacturing system: Using international advanced diode laser with high-end industrial robotics and controller, it makes up Multi-axis Flexible laser manufacturing system.

It can meet the requirements of laser hardening, alloying, cladding application on the surface of metal part..

There are several structure types: Floor, gantry, vehicle, machine tool for different occasion requirements.



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Floor type: Standard equipment. It can be used for hardening and cladding in mobile die, Mine machine, coal mine machine, Petrochemical Machine, Generator Set area.



Gantry structure type: It can meet the needs of hardening or cladding (repairing) on the surface of big dies.



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Vehicle mounted: it can be used to repair and remanufacture the large parts or parts which were difficult to remove.

This equipment is convenient to move with vehicle mounted



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Machine structure: Can be customized according requirement



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Annular Gear Laser hardening system





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Laser cladding system for Hydraulic pump cylinders of coal mine

• Customer Benefit

- Stability: Lasers from Germany, Modular designing,, Actual data monitoring, simple maintenance.
- High cost-effective: Simple construction, Low cost of maintenance.
- Energy saving: High electro-laser conversion efficiency (up to 45%), 980nm wavelength easy for metal material to absorb
- Easy to install and move, Can be used to repair the big parts locale.

• Related Application



laser cladding for motor shaft repairing



Cladding on flange



Cladding on pump cylinder



Cladding on Petrochemical Pump Volute



remanufacturing of fan blade



laser cladding on chute of Scraper conveyor



Cladding on Cutting teeth of mining machine



Cladding on big style mining hydraulic pump cylinder



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Laser hardening on automobile dies



Laser hardening on plastic die



Laser hardening on Drill collar threads



Laser hardening on H type steel



Laser hardening on ship push rod



Laser hardening on crankshaft



laser hardening on annular gear



laser hardening on corrugated roll