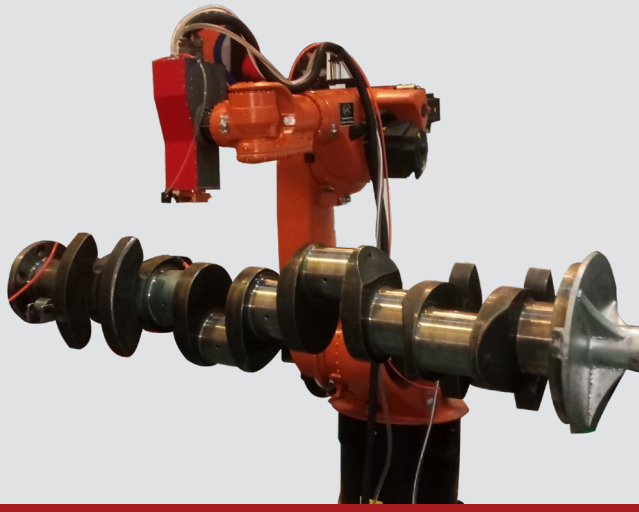
DanialMoj
Optical Telecommunication Solutions Provider



Laser hardening Machine

DMLIH808D1600C

DESCRIPTION

Laser hardening is a heat treatment process or surface hardening process in which a laser beam is used to heat the surface of a metal part. This modern technique of hardening is predominantly for strengthen used on materials and components that are prone to wear.

This process is used exclusively on ferrous materials suitable for hardening, including steels and cast iron with a carbon content of more than 0.2 percent. Laser hardening consists of the rapid heating of a material's surface by laser beam, the energy from the laser beam is applied directly to the component surface. The surface layer is heated up to the hardening temperature (>1000°C) in a reduced area within a very short period of time, a short hold at the target temperature, and intensive cooling due to the high thermal conductivity of the material. During the cool-down period a process called "self-quenching" takes place, where a fine-grained structure is formed in the thin layer on the surface of the part. This results in a significant increase in hardness of metal part.

The hardening depth of the outer layer is normally 0.1 to 1.5 millimeters, although on some materials, it may be 2.5 millimeters or more. Lasers tend to produce harder surfaces to a shallower depth compared to other hardening processes. This makes laser hardening ideal for improving the performance of intricate and high accuracy components. This differs from conventional methods, which are less precise and more invasive to your materials.

ADVANTAGES

- The amount of heat input is comparatively low, so heat is transmitted into the base material
- Requires less refinishing work
- High throughput, reproducibility
- Precise energy input with minimum heat effect
- No heat distortion
- This machine will ensure that even the hardest to reach places are accessible
- Non weakening or damage to the material

APPLICATIONS

- Increases hardness and wear resistance, which leads to reduction of abrasive wear
- Improve the service life of parts and quality

INDUSTRIAL USERS

- Heavy industrial molds
- Heavy metal parts
- Automotive Manufacturing
- power plant industries

SUPPORT FEATURE

- One-year warranty and full after-sales
- Product delivery with installation.
- Complete training with safety tips by expert trainers.
- Maintenance of all products in case of technical issues.
- Product guide with detail explanation.

TECHNICAL SPECIFICATION

Laser type	Diode laser
Wave length	808 nm
Power	1600w
Laser mode	CW
Beam shape	Rectangular
Beam size	1.5*8 mm^2,12*12 mm^2, 5*18 mm^2
Number of Axis	6 main axes (include: X, Y, Z, A, B, C) & 2 accessory axes (tip, tilt)
Reach	1650 mm
Point positioned	±0.05 mm
Rotational	±0.03 mm
Workstation bearing capacity	Unlimited for 6 axes Up to 400 kg for 2 axes
Main process system	Main process: 2.4 MHz Field bus protocol: ether CAT I/O: 64 DA: 2(0-10) V Dc
Option	Exhaust Thermo cam
Cooling	water

Date set: 24 August 1400; This is the technical specifications sheet of the product and the amount and criteria of the last technical sheet produced, which can be cited based on the adjustment date.