LASERS FOR INDUSTRY
electrox
600Group

Cobra

diode pumped Nd:YAG laser marking systems

www.electrox.com

Cobra

diode pumped Nd:YAG laser marker

applications

Laser marking is the technology of choice for permanent product identification, personalisation and tracking. This is just a small selection of the diverse range of applications:

Computer Equipment

— Marking text and graphics on plastic computer peripherals. An entire keyboard can be marked in a single operation

Automotive Products

— Removal of an opaque top coat from a translucent plastic substrate to create back-lit switches, instrument displays and audio bezels

— Marking layout, current ratings and protection information on fuse box covers

Electronic Components

— Marking epoxy packaged ICs and other micro components with text and graphics for identification

— Cleaning epoxy flash material from capacitor legs to ensure integrity of electrical connections

Electrical Switchgear

— Production of text and graphics on plastic relays, circuit breakers and switch covers to meet specific requirements of approvals bodies in different markets

Medical Implants

— Placing text graphics and part identification numbers on titanium heart pacemaker cans and surgical steel repair components

Surgical Instruments

— Generating unique two dimensional codes on surgical steel instruments for inventory management

Communications Equipment

— Removing an opaque layer of rubber or plastic from a translucent substrate to create back-lit text and graphics on mobile phone keypads

— Production of text and logos on plastic bodies of telephone headsets

Agriculture Equipment

— Replacement of hot foil marking to generate text, graphics and bar codes on livestock identification tags

Promotional Products and Giftware

— Origination of text and graphics on pen barrels, key rings, knives, trophies, picture frames, plaques, etc.

Tools and Gauges

— Marking logos, text and part numbers on drills, saw blades, milling cutters, chucks and collets

Light Shows

— Removal of metallic coatings from glass discs to produce graphics on gobos used in laser light shows

General Engineering

— Marking text, graphics and part numbers to identify ball and roller bearing races, gears, shafts, etc.

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benefits

advantages of laser marking

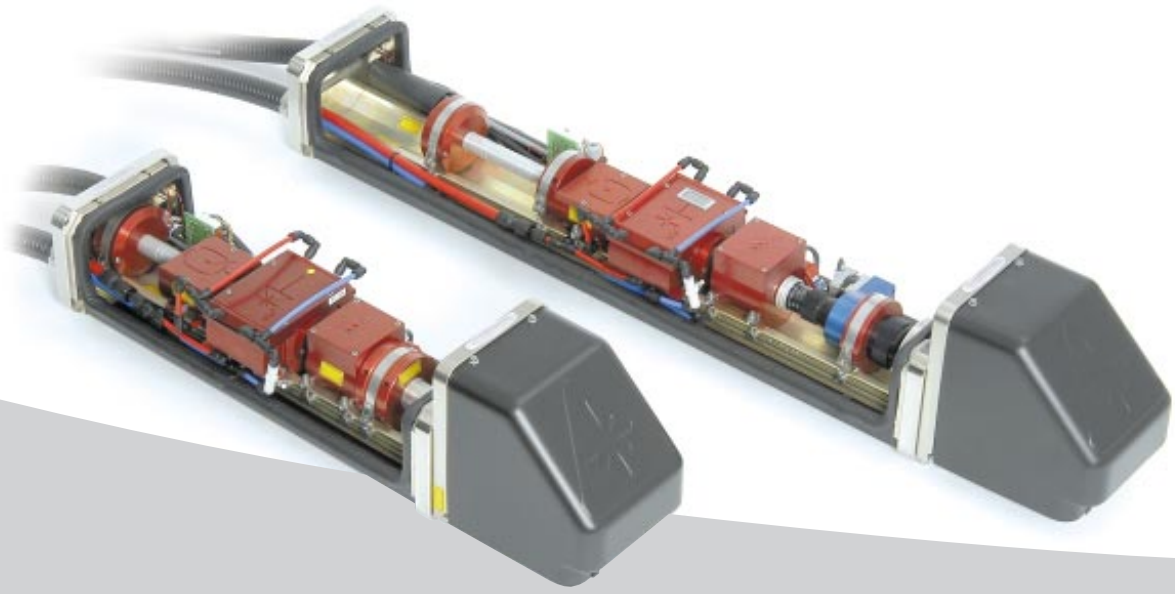
"an amplified beam of light, focused to a very small spot, to create a wide variety of images - very much like writing with a pen on paper"

Indelible	Permanently modifies surface composition of material
Clean and safe	No inks, acids or solvents
Wide range of materials	Metals, plastics, rubber, etc.
Flexible	Text, graphics, logos, bar codes, etc.
User-friendly	Software driven
No tooling to wear	No direct physical contact with the work piece
Cost effective	Virtually no consumables

principal features

High reliability and easy maintenance	Diodes guaranteed for 10,000 hours*
Easy installation	Single phase power
No external cooling required	Fully integrated system
Easily installed onto production lines	Compact modular construction
Familiar software environment	Compatible with all current versions of Windows

**or two years which ever is sooner.*



product range

range characteristics

Cobra E - entry-level model for low-to-medium volume applications

Cobra - original compact diode pumped concept

Cobra II - enhanced Cobra platform delivering smaller spots and higher power densities

Cobra II plus - high end model for the ultimate in speed and power

optical configurations

All models are supplied with alignment laser as standard and offer a choice of optical configurations - focusing, beam expansion and aperture - according to variant.

Available as an option on ***Cobra*** and as a standard feature on both ***Cobra II*** and ***Cobra II plus***, the innovative Electrox **Programmable Variable Aperture** allows dynamic modification of the spot size during the marking process and enables significant finesse within the images produced.

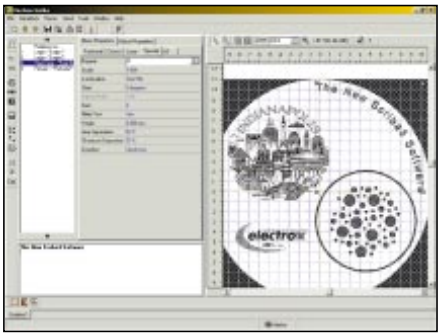
laser specification

Laser Type	Nd:YAG	Operating Modes	CW or Q Switched
Wavelength	1.064 µm	Operating Temperature	up to 40^0 C non-condensing
Pulse Frequency	0.1 to 100 kHz	Resonator Construction	All optics on a single rigid rail Fully sealed against ingress of dust
Max. Marking Speed	up to 10,000 mm/sec 400, 600 or 1,000 characters/sec* *1mm high characters	Marking Areas	85 mm to 350 mm diameter

software

standard features

User-friendly graphical interface
Full compatibility with Windows 98, 2000/NT, ME and XP
Fast file transfer to the laser
File import formats: PLT (HPGL), AI, DXF, PNL (Electrox), BMP, TIFF
Bar Codes
Two Dimensional Codes including Data Matrix
Automatic Serialisation
File Input Programming (Mail Merge)
Date Coding
Fill Editor
Motion Control (4 Axis)
Multiple I/O Interface



workstations and handling options

tabletop workstations

Choice of welded steel enclosures with hinged door

Automatic drawer and rotary work holding options

tabletop workstation

Axiom workstation with turntable

Maxim workstation with rotary

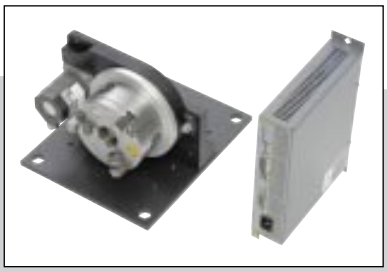
free standing workstations

Maxim welded steel or ***Axiom*** aluminium and composite panel construction

Both constructions available in two formats, each with manual z-axis:
– universal enclosure with sliding door
– indexing turntable enclosure with safety light curtain

handling options

Programmable z-axis, rotary work piece handling, xy positioning and vision options according to model



rotary work holding

xy positioning

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track record

Electrox was established more than 25 Years ago and was first to develop a compact fast axial flow CO_2 laser.

Now a member of the 600 Group plc, Electrox has the financial stability to ensure on-going customer support world-wide.

There are over 2,000 Electrox lasers in regular daily service in over 40 countries throughout the world.

Through its international sales and distribution network Electrox delivers service and support worldwide.

Comprehensive applications development facilities provide manufacturing solutions to a broad range of industries.

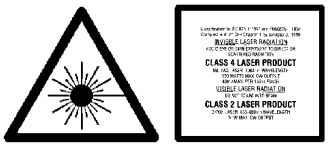
installation requirements

dimensions (h x l x w) and weights

	Cobra E and ***Cobra***	***Cobra II*** and ***Cobra II plus***
Laser Enclosure	244 x 782 x 183 mm 20kg	244 x 1100 x 183 mm 25kg
Control Cabinet	19 inch rack mounted modules 834 x 600 x 800 mm 80kg	

utilities

Input Voltage	Single Phase and Earth 50/60 Hz
	110, 180, 208, 220, 240 V
Power Requirement	2.2 kVA



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