



SCORPION

RAPIDE

The high performance laser marking solution



- The Ultimate Laser for Marking, Engraving, Etching and Pulsed Micro-Machining
- Ideal for high speed, high resolution operations on a wide range of materials including metals and plastics
- Complete control of the laser beam parameters to permit a wide range of marking finishes
- In-built 4 axis control, which is easily integrated into automated production systems or into one of Electrox's stand-alone workstations
- Extremely low operational cost and virtually maintenance free
- Easy to use with minimum training and set-up requirements
- Up to 20kW peak power with 70W average power



SCORPION RAPIDE offers a wider range of optic fibre galvo based laser processing solutions

Single Mode $M^2 < 1.3$

Generating very fine features <20 microns with high power stability and large depth of field.

Low Mode $M^2 < 2$

General marking applications giving slightly larger spots and features that are more appropriate to making marks visible to the naked eye.

High Mode $M^2 \sim 3.2$

Offering higher pulse energies, and peak powers and even larger spots ideal for wide lines, filled font type applications and large area coverage.



✓ = Optimal for ✓ = Good for

Type	Single Mode	Low Mode	High Mode
Applications			
Ablation	✓	✓	✓
Cleaning		✓	✓
Drilling	✓	✓	✓
Engraving, deep		✓	✓
Engraving, fine	✓	✓	
Marking, anodized and painted materials	✓	✓	✓
Marking, general		✓	✓
Marking, metal	✓	✓	✓
Marking, night and day	✓	✓	✓
Marking, plastic	✓	✓	✓
Micro-machining	✓		
Precision cutting	✓		✓
Scribing	✓	✓	
Solar cell processing	✓	✓	✓
Thin film patterning	✓	✓	✓



Product selection parameters

Laser		Average Power (W)	Min Peak Power (kW)	Min Pulse Energy (mJ)	CW Mode with modulation
SCORPION RAPIDE	II LRM	20	12	0.8	No
SCORPION RAPIDE	II SHS	20	7	0.55	Yes
SCORPION RAPIDE	II LHS	20	12	0.8	Yes
SCORPION RAPIDE	II.V HRM	25	20	1.25	No
SCORPION RAPIDE	III HHS	30	15	1	Yes
SCORPION RAPIDE	IV HHS	38	20	1.25	Yes
SCORPION RAPIDE	V SHS	50	7	0.55	Yes
SCORPION RAPIDE	VII HHS	70	20	1.25	Yes

Marking area parameters

Flat Field Focal Length (mm)	Max. Square Marking Field (mm)	(ød) Max. Marking Diameter (mm)	(Fd) Working Distance (mm)	*Spot size (typical)		
				• S Mode	• L Mode	• H mode
100	60	85	106	18µm	25µm	43µm
163	100	140	184	25µm	35µm	60µm
254	160	220	323	36µm	50µm	86µm
350	220	310	432	50µm	70µm	120µm
410	250	350	512	59µm	82µm	141µm

*Beam expander and galvo mirror dependent.

Laser specification

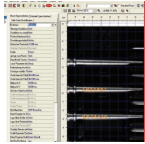
(All types)

Laser type	Yb:Fibre	All	Power stability	±1%
Wavelength	1060–1080nm		Beam quality	<1.5mm.mrad (M ² =1.2 max.)
Pulse frequency	CW, 0.1–1000kHz		Control electronics	19 inch rack mounted (5U) module
Max. marking speed	10,000 mm.s ⁻¹	All	Optical unit protection	IP52
Operating temperature	Up to 40°C (non condensing)	All	Supply requirement	Single phase + Earth, 50 or 60Hz; 100 - 240V. Power 250W
Pulse duration	9–250ns		Weight	Laser 12Kg, Control Unit 21Kg



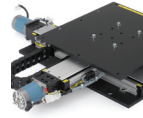
SCORPION RAPIDE

Accessories



Vision

Video camera for viewing objects to aid marking and alignment



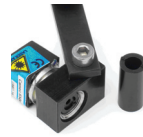
XY Table

For marking large objects or for step and repeat with small objects



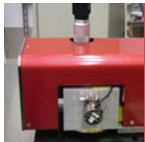
Rotary Axis

For marking cylindrical components



Focus Finder

Laser diode to assist with focus settings



Code Reader

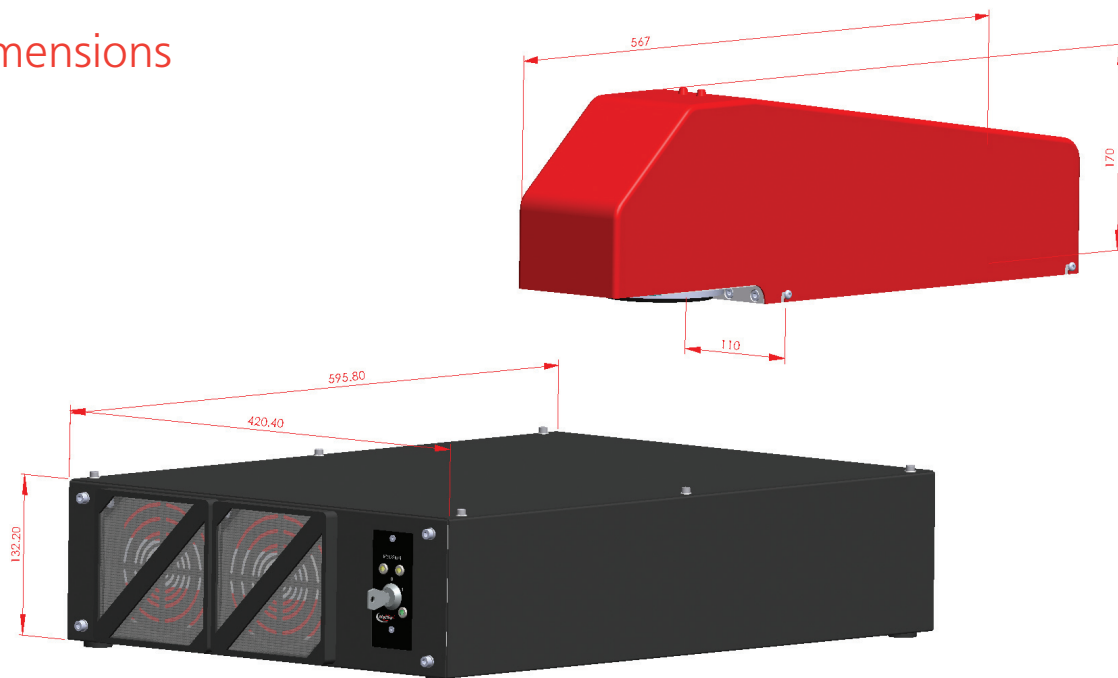
For fine barcodes, alpha numeric and data matrix codes



Extraction

For extraction of fumes and removal of dust and debris generated by the marking process

Dimensions



Disclaimer: Specification and dimension drawings are provided purely for guidance purposes only. We reserve the right to change these at short notice.



Leading laser marking systems

Electrox, Avenue One, The Business Park, Letchworth Garden City, Hertfordshire SG6 2HB United Kingdom

T. +44 (0)1462 472400 F. +44 (0)1462 472444 E. sales.uk@electroxlaser.com

