

Fiber Laser Technology

The SmartLase F500 fiber laser delivers a reliable turnkey coding solution for high-speed beverage can lines and other high throughput applications. The SmartLase F500 produces crisp permanent codes and meets your financial and sustainability goals.

Lower OpEx, fewer stoppages, clean and green

- **Eliminate the cost of consumables**
With the F500 there is no need for ink and consumables, so the impact to your operating expenses (OpEx) is immediate.
- **Increase efficiency, reduce maintenance**
The F500 improves production efficiency by maximizing the Overall Equipment Effectiveness (OEE) and minimizing losses caused by line stoppages. With the ES500i+, extraction and cooling are achieved with one unit; no additional cooling costs.
- **Clean, sustainable and compliant**
The SmartLase F500 helps achieve your sustainability compliance goals by eliminating chemical components. The F500 helps you make your beverage production truly environmentally friendly.



Crisp, high quality, permanent codes

- **Clean, readable, traceable**
Even at the highest line speeds and product throughput, the SmartLase F500 provides reliable traceability that minimizes rework and recall costs.
- **Permanent**
Indelible marking produced by the fiber laser reduces counterfeiting - no rubbing, smudging, fading or faking.
- **Ultrafast**
High-performance digital galvanometers with lightweight mirrors are driven by a proprietary lasing algorithm. This unique scribing method enables high quality consistent codes much faster than conventional vector lasers in both static and dynamic applications.



Proven reliability, global service

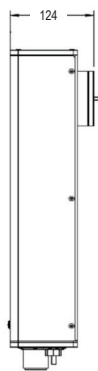
- **Designed for most challenging environments**
Complete IP 55* controller and printhead ingress protection enables long and reliable operation in humid and sugar-infused beverage environments.
- **Install it and forget it**
With the F500 and its excess of 100,000 hours meantime between failure (MTBF), you can count on laser source reliability of 98% in the first few years of service. This maximizes your total return on investment and delivers maintenance-free peace of mind.
- **Easy to operate**
Intuitive touchscreen interface simplifies and automates code updates, minimizing user errors.
- **Markem-Imaje reliability and service support**
Wherever you are, a Markem-Imaje representative is just a phone call away. 24 or 48 hour on-site repair service level agreement (SLA) available in most geographic locations.



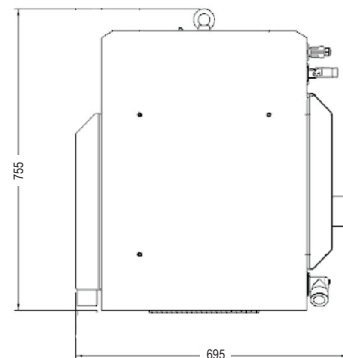
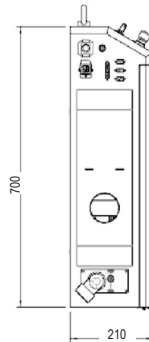
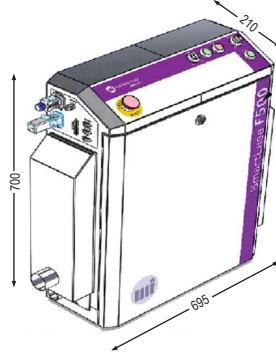
*Ingress protection

SmartLase F500 - Specifications

Laser printhead



Controller



Model name	SmartLase F500
Laser type and properties	<ul style="list-style-type: none"> 50 W 1064 nm Ytterbium pulsed fiber laser Digital galvanometers, pulse frequency 50 kHz and higher
Applications/substrates	<ul style="list-style-type: none"> Aluminum and steel beverage cans, flexible film, bare metals, some plastics and polymers (e.g. HDPE, PP, PVC, PS, etc.) * Coding in stationary or moving "on the fly" applications
Beverage can line speed (max.) in cans per hour	<ul style="list-style-type: none"> Up to 120 m/m or 1750 cans per minute (18 alpha-numeric characters 2.6 mm high in two lines, on 66 mm diameter cans) *
Marking speed (max.)	<ul style="list-style-type: none"> Up to 640 m/m or 2400 characters/s *
Print features	<ul style="list-style-type: none"> Number of text lines: limited only by character height and allowable print area Character height: from 1 mm to allowable print area Fonts: English/Latin character/numerals; Unicode: Katakana/Hiragana/Kanji (JIS Level 1 and Level 2); Chinese (GB2312 No.1 and No.2)/Symbols; Laser Font: arabic, arialpro, crossfree, haspaller, hspal, newmod, newpal rus, newpal, ocr-a, ocr-b, ocr-b2; CrystallFont: cryst5x5 RUS, cryst5x5, cryst7x5 RUS, cryst7x5 1D and 2D barcodes (static or dynamic) NW-7, JAN (EAN)/UPC, GS1 DataMatrix, JAN(EAN)/UPC CC-A, CC-B GS1 DataBar: Standard, truncated, stacked, stacked omnidirectional, limited, expanded, expanded stacked: CC-A, CC-B GS1-128 CC-A, CC-B, CC-C – with message design software. Logos, graphics in DXF, BMP, JPG, GIF, PNG, ICO, VGF, PLT, PCX, TIFF, TGA formats Sequence and serial numbering, automatic date, shift and time coding, real-time clock; online coding of individual data (weight, contents, etc.), timestamps Linear, circular, angular text marking; rotation, reflection, expansion, compression of marking contents, etc.
Interface and control	<ul style="list-style-type: none"> Standard I/O: Ethernet, RS-232/422, encoder, photocell/sensor, extractor controls, alarms, remote interlocks (dual channel) Direct laser control with TCP/IP or RS232 Event-handler allows flexible integration by configuring the laser to send or receive data via TCP/IP, extract data from files or write to files in response to printing or operator events Standard pointing diode (635 nm red) Message storage capacity: 512 MB for resident jobs
Options and accessories	<ul style="list-style-type: none"> All stainless steel variable height laser stand, ES500i+ cooler/extractor, contactless encoder for beverage can lines, custom guarding tunnel, conventional photocell/sensor, conventional encoder, alarm beacon, touch screen interface, handheld terminal, optional lenses (see below) 6" touchscreen interface in English (Default); Chinese; Czech; Deutsch; Finnish; French; Greek; Italian; Japanese; Korean; Polish; Portuguese; Russian; Spanish; Turkish.
Coding area and focal distance (mm)	<ul style="list-style-type: none"> Lens 55 x 55 mm / FD 100 mm Lens 100 x 100 mm / FD 162 mm (standard) Lens 160 x 160 mm / FD 254 mm Lens 212 x 212 mm / FD 346 mm Lens 242 x 242 mm / FD 420 mm
PC software	<ul style="list-style-type: none"> Software available for message editing in Arabic; Chinese; Czech; Danish; Deutsch; Dutch; English (Default); Spanish; French; Hebrew; Hungarian; Indonesian; Italian; Japanese; Korean; Malaysian; Polish; Portuguese (Brazil); Russian; Serbian; Thai; Turkish; Vietnamese; Swedish. CoLOS support upon request
Physical characteristics	<ul style="list-style-type: none"> Ingress protection: Controller: IP55, Printhead: IP55 EN ISO 13849-1 and -2 safety performance level: PLd Operating temperature range: +5°C (41°F) to +40°C (104°F) at 100% duty cycle Operating humidity: 10 to 95% non-condensing Electrical power supply: 1 phase 115/230 V 50/60 Hz, 700VA Dimensions: Controller: 210 x 700 x 695 mm; Printhead: 490 x 110 x 124 mm; Interconnecting cable length: 3 m Weight: Controller 35 kg, Printhead: 7 kg Outer material: Controller: stainless steel, Printhead: stainless steel and anodized aluminum Laser source MTBF: 100,000 hours Cooling: air cooled. No plant air required for cooling; ES500i+ cooling/extractor

*Depends on the substrate and size/complexity of printed message. Please consult with Markem-Imaje representative for your application.

We reserve the right to amend the design and/or specifications of our products without notice.

ПКФ "Аллюр"
официальный дистрибьютор в Украине
ул. Левитана, 110, 65114, г. Одесса
тел/факс: (0482) 37-54-87; 37-75-02
info@allur.com.ua
allur.com.ua
markem-imaie.com

Markem-Imaje
Global Sales & Marketing Division
9, rue Gaspard Monge
B.P. 110
26501 Bourg-lès-Valence Cedex France
Tél. : +33 (0) 4 75 75 55 00
Fax : +33 (0) 4 75 82 98 10


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