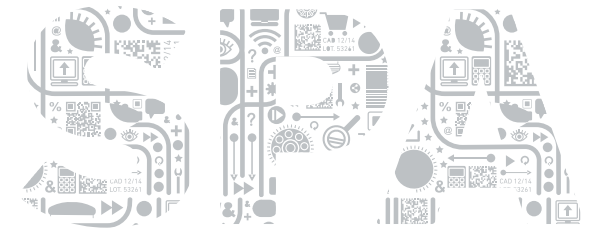


WE CHANGED THE RULES, AGAIN



THE FIRST MODULAR LASER
THAT GROWS WITH YOUR NEEDS

SPA by MACSA
modular, better, complete

Macsa id
a code you can trust

▼
1

YOUR
NEEDS

PAGE 4



2

YOUR
LASER

PAGE 20

3

YOUR
CHOICE

PAGE 38



RELIABILITY

"I need a laser that operates reliably in the difficult environment condition of my production plant."

Geza Nazy
Senior Packaging Specialist
Nestlé
Switzerland



Even the best run factories can be dusty and when dust gets inside a laser its reliability suffers. That's why SPA lasers have been designed, built and tested to IP54. No dust inside means more reliable operation.



VERSATILITY

"I need a laser that is designed to be easy to integrate and to use in my plant."

Sina Adeniran

*National Electrical & Automations Manager
Coca-Cola
Nigeria*

Factory managers always look for ways to increase throughput but too often the laser cannot cope. The novel, proprietary digital signal processor used for the real time management of SPA lasers can easily respond to this challenge.





PRECISION



"I need a laser that can consistently deliver the print quality that my customers demand."

Anthony Micallef
Packaging Manager
Simonds Farsons Ask Plc
Malta

It's increasingly important that the codes which companies put on their products are high quality and easy for end-users to read. SPA lasers incorporate several features including Macsa's proprietary VCS* to ensure that high print quality is maintained.

* VCS: Vibration Compensation System



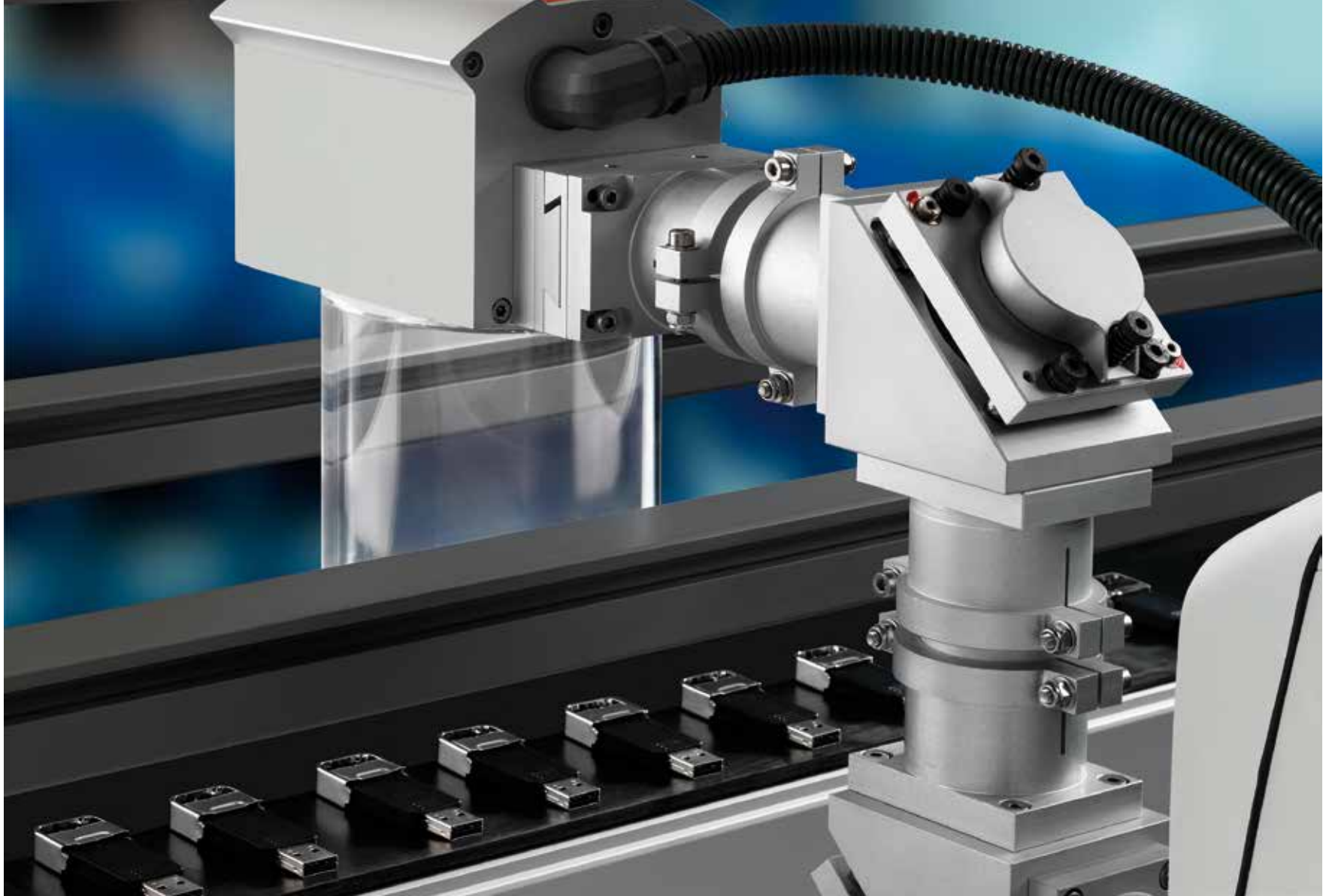
SIMPLICITY



"I want a laser that can easily acomodate the needs of my production line."

*Jozsef Torok
T&L Manager
Unilever
Hungary*

Time is money in the factory and managers don't want equipment which uses lots of operator time. Marca software that is used to set up, program and drive SPA lasers has been redesigned to make it very easy to use and to eliminate errors.



ADAPTABILITY



"I need a laser that not only meets my needs today but can also adapt to my needs tomorrow."

Miquel Prats
Packaging Specialist
Nestlé
Spain

Demands in the production environment change: faster lines, new materials, changes on messages and graphics. Too often this means buying a new laser, but that's not true for SPA lasers. Because they are modular, they can be easily adapted to respond to changes, saving both time and money.





COST

"I need a laser that does not cost me more to acquire, operate and own than I expected."

Joe Lim

*Business Development Manager
Syspex Technologies Pte Ltd
Singapore*

The cost of a laser is largely hidden. It includes the cost of maintenance to keep the lenses dust free. The proprietary RAF* cooling system used for SPA lasers doesn't just keep them running reliably it also cleans the lenses saving money by enabling continuous operation.

*RAF: Reverse Air Flow




RESPONSIBILITY



"I prefer to work with suppliers which have a clear and visible ethical policy including a responsible approach to the environment, and their employees and other stakeholders."

Fernando Prieto
Managing Director
Pritech
Brasil

Macsa Solidaria, the charity part of MACSA, has invested in housing for disabled people in India and to rehabilitate a maternity unit in Mali. And closer to home it has created the Viuràlia Foundation to support people in unemployment, to make available micro-credits to entrepreneurs unable to secure funding and to provide practical support to new start-up businesses.



1

YOUR
NEEDS

PAGE 4

2

YOUR
LASER

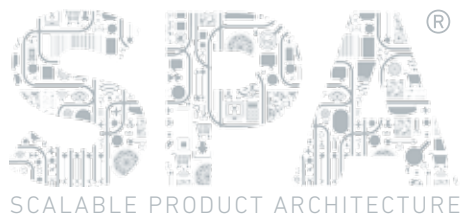
PAGE 20

3

YOUR
CHOICE

PAGE 38





CHANGES THE RULES, AGAIN



Until today, when you bought a laser you had to make compromises. You had to buy a standard product for today's needs which might become obsolete when those needs changed.

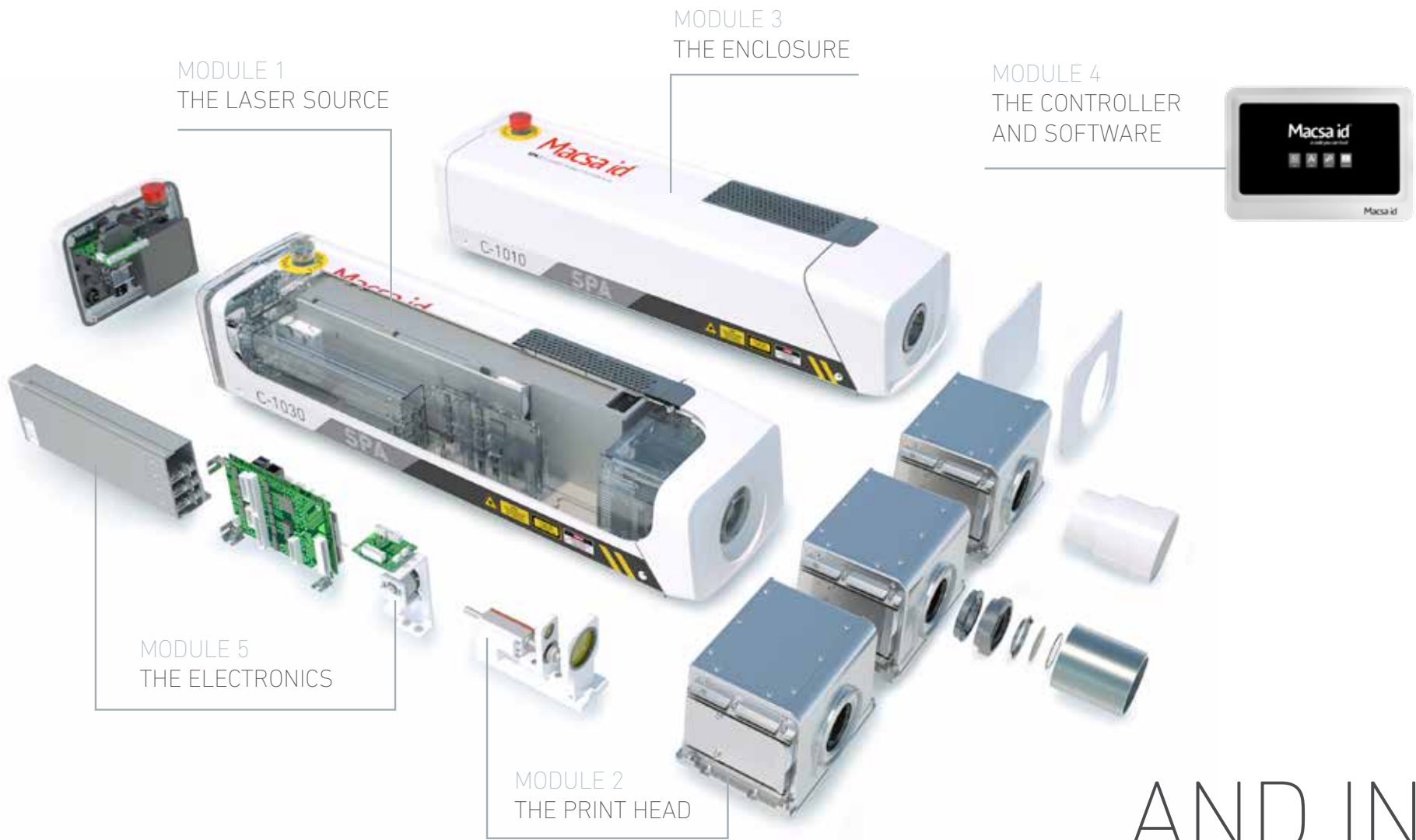
But it shouldn't be that way and that's why Macsa has developed the **SPA Scalable Product Architecture**.

The **SPA laser** platform simplifies everything. It's **modular** so you can specify exactly the laser which you need today knowing

that you will be able to adapt it when your needs change tomorrow.

SPA lasers incorporate features and technology enabling them to deliver **better** quality **coding and marking** at higher speeds more consistently over time. They are more versatile and reliable, and lower cost to own, maintain and operate.

It's not just about selling lasers but about supplying, installing and supporting **complete** laser systems.



MODULE 1
THE LASER SOURCE

MODULE 3
THE ENCLOSURE

MODULE 4
THE CONTROLLER
AND SOFTWARE

MODULE 5
THE ELECTRONICS

MODULE 2
THE PRINT HEAD

AND IN
YOUR FAVOUR





RELIABILITY

Production environments can test the reliability of laser systems. SPA lasers are designed to operate reliably in dusty or damp environments even subject to extremes of temperature.

RESISTANT TO HARSH ENVIRONMENTS

They have been designed to meet **IP54**. This means that they are dust tight. This makes them more reliable.

Furthermore an affordable **IP65** option is available. This enables them to be equally reliable in wash down and other wet environments.

High and low temperature kits are available so that users can be confident that performance will be maintained even at ambient temperatures outside the laser's normal operating range.

IP54



IP65



CLEAN COOLING

SPA laser uses the novel RAF reverse airflow cooling system. It takes in air from the back of the laser where it does not pick up dust from the laser's operation. This means that filters are changed less frequently and in some circumstances are not needed.

There is a sealed air system which transfers heat from the laser to the cooling air itself. This means that there is no risk of any dust being deposited directly into system component.

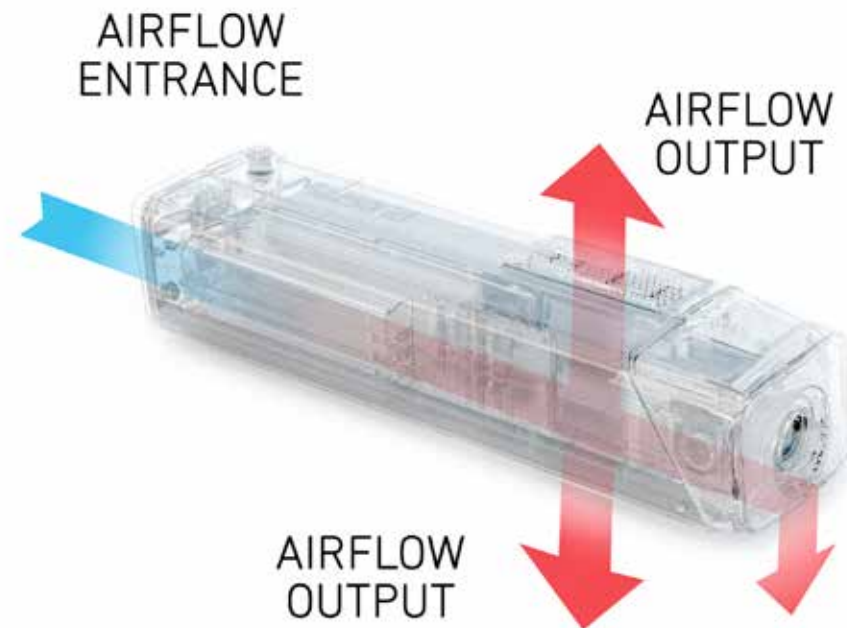
Finally, a part of the exhaust air is blown over the focusing lens keeping it dust free so that print quality is maintained without the need for operator intervention.



RELIABLE CONNECTIVITY

The connectors on the back of SPA lasers are high specification and reliable in harsh production environments. They ensure that communication is maintained without the risk of disconnection or data transfer errors.

IP54 certified by





VERSATILITY

The SPA modular system enables an easy integration to the needs of every production line or marking type. The SPA is so versatile that a single unit can meet the requirements of many applications.

EASY LENS INSTALLATION

SPA lasers by Macsa allows you exchange lenses safely and quickly, which means that you can select the set of lenses that is suitable for each project and easily adapt the laser to it.

OPTICS KITS FOR IMPROVED CODING

SPA lasers by Macsa give you the option of adding an Optics Kit that includes elements to improve the focus and resolution of the coding, such as a laser beam expander or an optical pointer, among others.

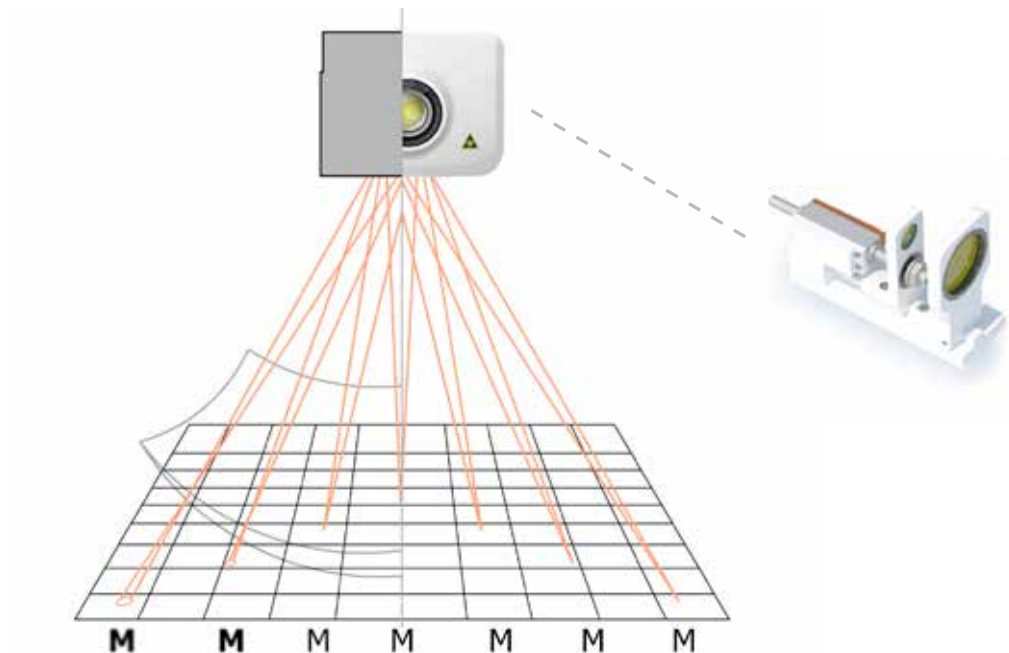
EASY SWITCHING BETWEEN HEADS

Thanks to SPA printer head exchange system, operators can switch them on site with just two connectors, adapting the laser to the needs of the production line at all times.



A LASER FOR EVERY SUBSTRATE.

SPA lasers work with CO₂, YAG and Fiber laser technology to provide the best coding and marking result on a wide range of materials.



3D PRINTING OPTIONS

The SPA enables you to print on multi-level surfaces thanks to a surface recognition system included in its 3D printing kit, which ensures an optimal focal point at all times.

3D PRINTING

EXTERNAL Z-AXIS CONTROL

Macsa provides you with an external Z-axis controller that allows you to adapt the SPA's vertical coding axis in order to vary the height between print cycles and adapt it to different products.

CONNECTOR BOX

The SPA connector box offers a wide range of communication ports, which ensure that the laser is integrated with all of the elements in your production line.

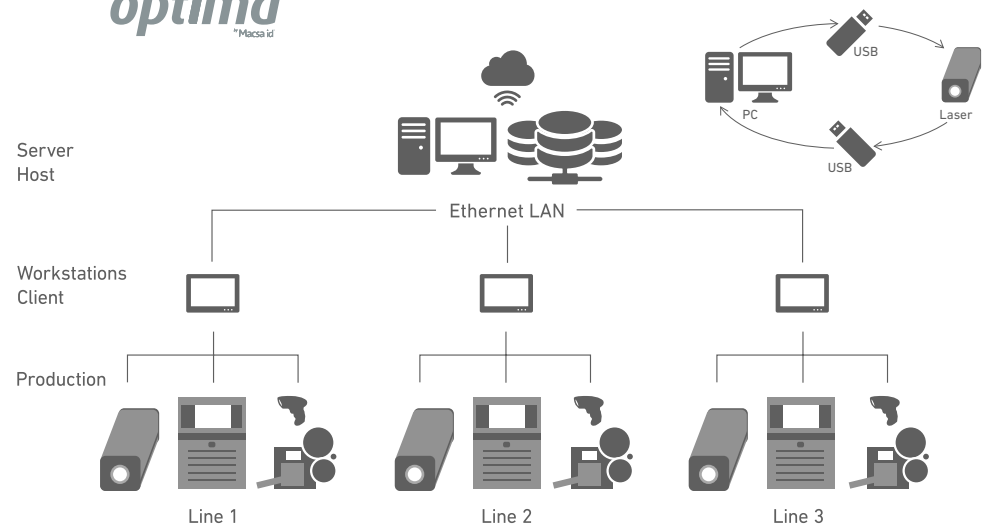


VERSATILITY Connectivity

SPA lasers can work individually, but they can also work in team. These are the connectivity options:

OPTIMA

SPA lasers support Optima software by Macsa. It is suitable with desktop printers, print & label applicators, readers and even inkjets. All this ensures full real-time control of the production of your company through our application or your ERP server.





NICE LABEL

Compatibility between SPA and NiceLabel management software is complete. Design, create and print labels directly with SPA lasers without using anything else. You can use the SPA laser as a normal printer.

NiceLabel

ILABEL SYSTEMS

Just press a button, that's all. The SPA system will print the label and apply it wherever you want. The wide range of possibilities of iLABEL systems guarantees the use of all kinds of labels for any type of application.

REMOTE CONTROL

A Macsa's technician will be able to set the device and help in the creation of messages remotely.



REMOTE CONTROL



PRECISION

Quality marking speaks volumes to the consumers of a brand or product. That is why the SPA platform has been designed to offer maximum marking resolution and definition, even on high-speed production lines.

HIGHER SPEED AND BETTER RESOLUTION

There are three basic SPA printheads to use for different speed/quality challenges:

- UHS printhead is recommended for very high-speed production lines and for multiple lines of code or for complex messages with graphics and 2D codes.
- HPD printhead is recommended for working on difficult substrates, large marking areas and high resolution graphics and for product modification.
- NXT is a utility printhead for applications requiring a balance of power and speed.

HIGHER-QUALITY LENSES

SPA lasers operate with new high-definition flat field lenses. These enable higher quality coding on a wide range of materials and across the entire marking area.

DUAL PROCESSOR

SPA has a dual processor that dedicates all the resources of one processor to operating the laser, and simultaneously dedicates the resources of the other processor to real-time control of the marking, thus increasing the precision of the coding.

VIBRATION CORRECTION SYSTEM (VCS)

Macsa's proprietary VCS, based on a novel approach to product detection, improves print quality by eliminating the impact of production line vibration.

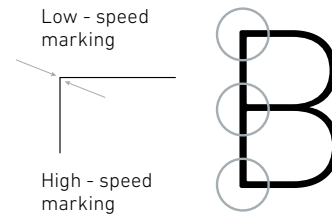
LASER BEAM EXPANDER

A beam expander is available as an SPA option. This expands the beam making it more uniform and increasing the definition of coding.

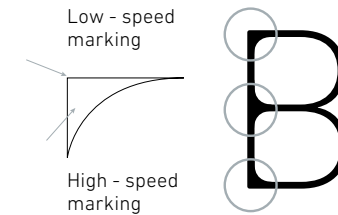
OPTIMUM FOCUS CONTROL

Obtaining the optimum focus distance is much easier with the SPA as it includes a light pointer for the laser beam that indicates the height at which to place the product for better print definition.

MACSA LASER SYSTEM



OTHER



 **VCS**[®] Vibration Compensation System



SIMPLICITY

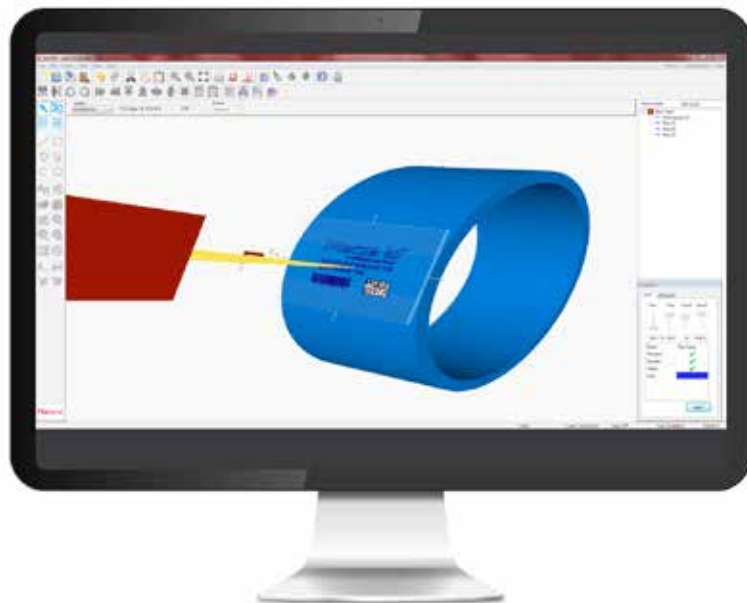
Macsa has used the SPA software environment to make it easy to install, program and operate SPA lasers. There's a wizard to support installation. There are on-line help videos to provide advice in situ. There is a completely new user interface to make programming quicker and to eliminate operator errors.

MULTIMEDIA GUIDE FOR INSTALLATION AND CONFIGURATION

SPA lasers are even easier to install and configure thanks to the technical guides, videos and tips that can be accessed on site via a touch screen.

ALL OPTIONS AT YOUR FINGERTIPS

SPA lasers may be controlled by a best of class 10 inch handheld touch screen controller. It comes complete with a new version of Marca software which is even easier to use and more powerful than previous releases. SPA lasers may alternatively be controlled direct from a PC via an ethernet link.



NEW MARCA® SOFTWARE

SPA lasers may be controlled using Marca® software, which has been redesigned to be even more intuitive and easy to use. It provides laser operators with a full suite of features for designing the messages and driving the laser.





ADAPTABILITY

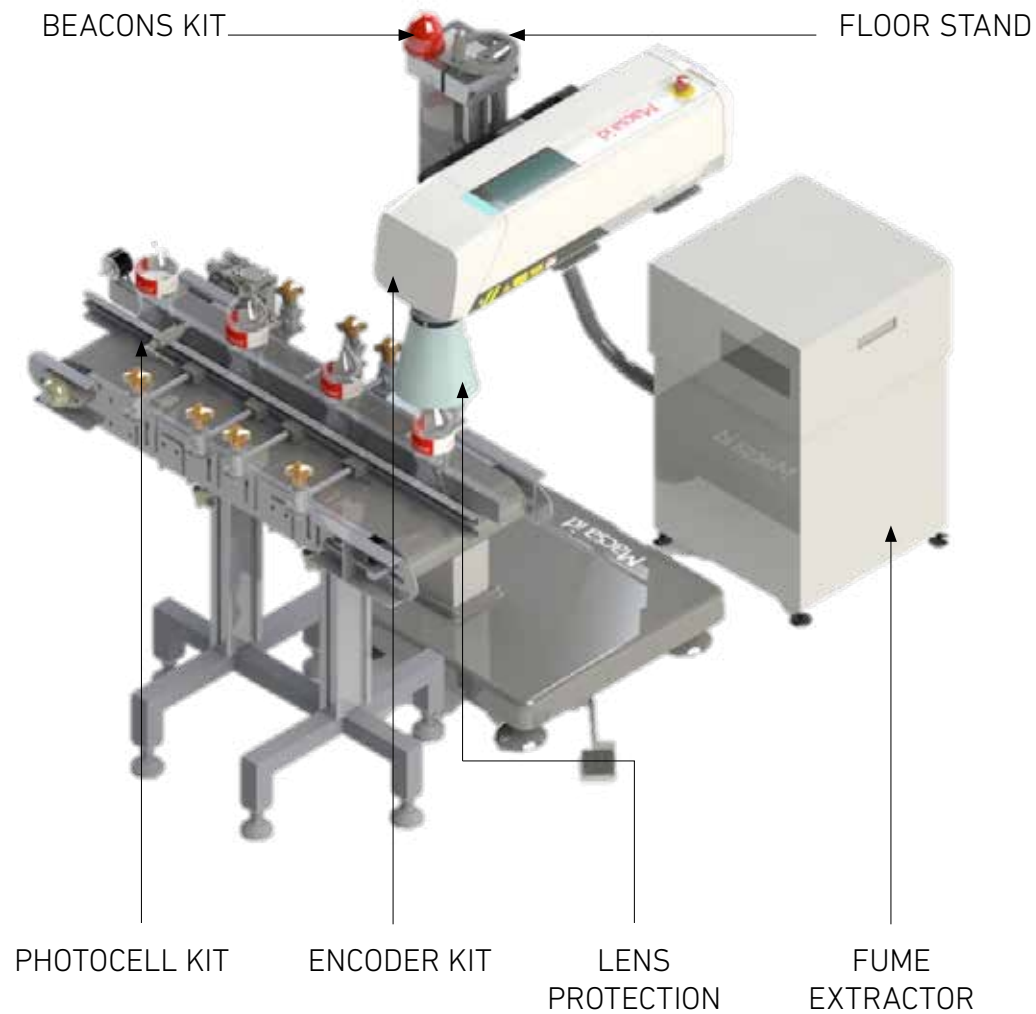
MODULAR

Because the SPA platform is modular lasers can be adapted to meet users changing needs. New lasers can be fitted, the laser head can be changed, different options can be chosen and different extras installed.

ESSENTIAL EXTRAS

A laser doesn't deliver until it's installed and running, this is the reason why it needs essential accessories. Macsa makes these essentials available as a part of the SPA package. They are chosen because they work well within a SPA system and Macsa is confident to recommend them.

- Product detectors
- Line protection integration
- New articulated floor stands
- Special application cabinets (Workstations)
- Cooling dryer
- Fume extractors
- Lens / operator protection
- Safety kits



OPTIONAL EXTRAS

Every production environment is different. Different performance, different ambient conditions, different regulations, different products and different substrates. Macsa supports and makes available a range of extras which meet the standards and complement the SPA laser installation.

- Optic kits
- Environmental kits
- Warming kit
- Cooling kit
- Connector box
- Filters
- Chiller
- Mechanical head kits

YOUR LASER



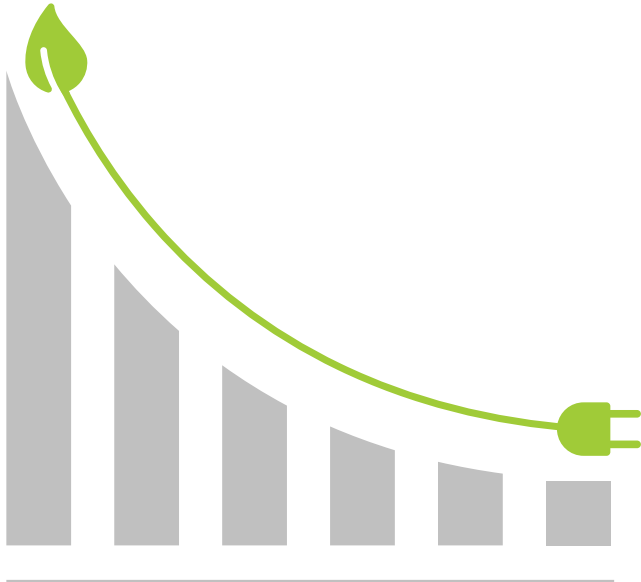
RESPONSIBILITY

At MACSA ID, this is what we do. We are a team, or better yet, a family. From the moment of our inception, our family has grown exponentially to meet the challenges of tomorrow, today. We strive to offer the best solutions in laser marking and coding for product traceability. And in so doing, eliminating the need for costly consumables and at the same time protecting the environment. The results of the applicability and versatility of our products can be found in the daily lives of people around the world.

In the end, that's what we're all about: people helping people.



MACSA HAS A RESPONSIBLE APPROACH TO THE ENVIRONMENT AND A CLEAR AND VISIBLE ETHICAL POLICY



Energy consumption

ENERGY EFFICIENCY

SPA lasers are better in power consumption during the execution of the image process than competitors' lasers. In short, our technology offers the same print quality and speed with less energy.

MACSA, THANKS TO ITS WIDE OFFER OF CODING AND MARKING EQUIPMENTS OF ALL TECHNOLOGIES, HELPS TO FULFILL ALL SECTOR REGULATIONS

Macsa also understands the regulations which apply to our customers' businesses and takes them into account in its product development.

- * 21CFR/11
- * GSD Data Matrix
- * DCTA Tobacco



1

YOUR
NEEDS

PAGE 4

2

YOUR
LASER

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3

YOUR
CHOICE

PAGE 38



1

CHOOSE THE TECHNOLOGY

- The substrate you need to code, mark or score determines whether you need a CO₂, a YAG or a fiber laser.
- If it's a CO₂ laser you can also choose the wavelength to better mark PET and PVC.
- **CO₂:** Paper and board, glass, wood, PVC (10,2 micron), PET (9,3 micron).
- **YAG and fiber:** Metals, engineering thermoplastics, styrenics olefinics, epoxy resins plastic films (continuous fiber).

2

CHOOSE THE POWER

- A range of laser powers is available for all SPA families.
- Typically a higher speed application will need a higher power laser.
- Some more difficult to mark substrates will also need a higher power laser.

3

CHOOSE THE PRINTHEAD

- If it's a high speed and/or multi line and/or complex graphic application you need an SPA UHS laser.
- If it's a difficult to mark substrate or a scoring application you need an SPA HPD laser.
- For most other applications an SPA NXT laser is sufficient.
- **UHS:** High speed production lines; large, more complex graphics.
- **HPD:** Scoring applications; difficult to mark substrates.
- **NXT:** Moderate speed production lines; typical coding messages.

4

CHOOSE THE OPTICS

- The size of the message or graphic determines the focal length of the lens to be used.
- A beam expander may also be chosen to improve print quality.
- Beam expanders are standard for UHS and HPD lasers.
- A focussing pointer is also available.
- 3D printing options are available as extras.

5

CHOOSE THE ENCLOSURE

- All SPA lasers are designed, built and tested to IP54.
- An IP65 option is available for users with damp and/or wash down environments.
- High and low temperature kits are available to ensure reliable operations at extreme temperatures.
- An optical head split kit aids installation in difficult environments.



CHOOSE THE CONTROLLER

- The easiest way to program and control an SPA laser is to use its handheld touchscreen controller.
- Alternatively you can use Marca software and drive it from a PC via an ethernet link.



CHOOSE THE ELECTRONICS

- The electronics module is standard for all SPA lasers.
- The power supply is modular but its size is determined by the choices of laser (technology, family and power) and optics.



CHOOSE THE ESSENTIALS

- Several essential accessories are needed to complete most laser solutions:
 - Photocell
 - Shaft encoder
 - Support stand
 - Fume extractor
 - Laser beam protector



CHOOSE THE EXTRAS

- All installations are different and it is generally necessary to add other equipment to complete a safe and robust installation:
 - 3D printing
 - Enhanced safety
 - Chiller
 - Connector box
 - Workstation



CHOOSE THE EXPERIENCE

- A laser is just hardware until it's installed and operational. Macsa provides a range of services to ensure that users are fully satisfied:
 - Advise and Consulting
 - Installation
 - Training
 - Technical support
 - Extended warranty

CHOOSE THE TECHNOLOGY

MATERIAL		TECHNOLOGY						
Family	Substrate	CO2			Fiber	YAG	Green	UV
	wavelength	10.6 μm	10.2 μm	9.6 μm	1064nm	1064nm	537nm	355nm
Wood, Paper and Board	Wood	●	●	●	●	●	●	●
	Thermal label	●	●	●	●	●	●	●
	Paper	●	●	●	●	●	●	●
	Board	●	●	●	●	●	●	●
	Metallised Board	●	●	●	●	●	●	●
Food	Fruits and vegetables	●	●	●	●	●	●	●
Glass	Glass	●	●	●	●	●	●	●
	Glass Fiber	●	●	●	●	●	●	●
Ceramics	Ceramic	●	●	●	●	●	●	●
Plastics	Polypropylene (PP)	●	●	●	●	●	●	●
	Low density polyethylene (LDPE)	●	●	●	●	●	●	●
	High density polyethylene (HDPE)	●	●	●	●	●	●	●
	Polystyrene (PS; GPPS and HIPS)	●	●	●	●	●	●	●
	ABS	●	●	●	●	●	●	●
	Polyacetal (POM; polyoxymethylene)	●	●	●	●	●	●	●
	Polyamide (PA)	●	●	●	●	●	●	●
	Polycarbonate (PC)	●	●	●	●	●	●	●
	Polyethylene terephthalate (PET)	●	●	●	●	●	●	●

● Excellent Reaction ● Good Reaction ● Poor Reaction

MATERIAL		TECHNOLOGY						
Family	Substrate	CO2			Fiber	YAG	Green	UV
	wavelength	10.6 μm	10.2 μm	9.6 μm	1064nm	1064nm	537nm	355nm
Plastics	Polybutylene terephthalate (PBT)	●	●	●	●	●	●	●
	Polyvinyl chloride (PVC)	●	●	●	●	●	●	●
	Silicone coated	●	●	●	●	●	●	●
	Epoxy resins	●	●	●	●	●	●	●
	Phenolic resins	●	●	●	●	●	●	●
	Polyurethane	●	●	●	●	●	●	●
Plastic foams	Polystyrene foam	●	●	●	●	●	●	●
	Polyethylene foam	●	●	●	●	●	●	●
	Polyurethane foam	●	●	●	●	●	●	●
Plastic films and foils	Aluminized Foil	●	●	●	●	●	●	●
	Polyethylene terephthalate (PET)	●	●	●	●	●	●	●
	Oriented polypropylene (OPP)	●	●	●	●	●	●	●
Metals	Coated metal	●	●	●	●	●	●	●
	Anodized aluminium	●	●	●	●	●	●	●
	Steel	●	●	●	●	●	●	●
	Aluminium	●	●	●	●	●	●	●
	Copper	●	●	●	●	●	●	●
	Gold	●	●	●	●	●	●	●
	Iron	●	●	●	●	●	●	●
	Metallised board	●	●	●	●	●	●	●
	Nickel	●	●	●	●	●	●	●
Rubber	Natural rubber	●	●	●	●	●	●	●
	Synthetic rubber	●	●	●	●	●	●	●

CHOOSE THE POWER

WAVE LENGTH	TECHNONOLGY	PRINTHEAD	10	20	30	40	50	60	80	100	200	400(1)
10.6 micron 10.2 micron 9.3 micron	CO ₂	NXT	YES		YES			YES	YES	YES	YES	YES
		UHS			YES			YES	YES			
		HPD			YES			YES	YES	YES		
1064 nm	PULSED FIBER	NXT	YES	YES	YES		YES			YES		
		UHS	YES	YES	YES		YES			YES		
		HPD	YES	YES	YES		YES			YES		
1064 nm	CONTINUOUS FIBER	UHS	YES	YES			YES			YES		
1064 nm	YAG	NXT	YES	YES		YES						
		HDP	YES	YES		YES						

(1) 10.6mMicron only

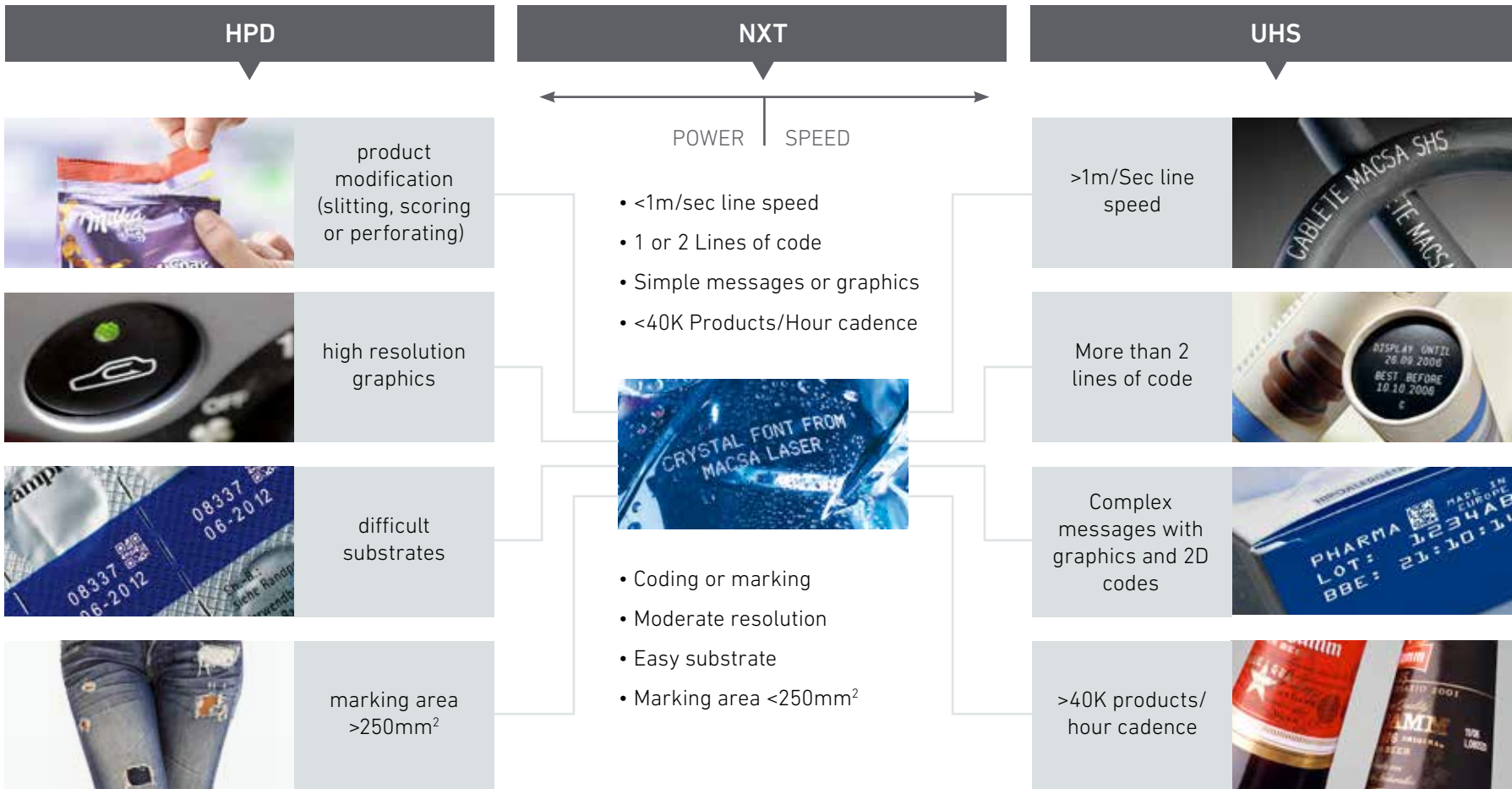
Specialist Laser (NXT ONLY)					
533	GREEN	YAG	6	AND	10W
355	UV	YAG	1.5	AND	4W



MODULE 1:

RELIABILITY · VERSATILITY · PRECISION · EASINESS · ADAPTABILITY · COST · RESPONSIBILITY

CHOOSE THE PRINTHEAD



MODULE 2:

RELIABILITY · VERSATILITY · PRECISION · EASINESS · ADAPTABILITY · COST · RESPONSIBILITY

SPA | SCALABLE PRODUCT ARCHITECTURE

CHOOSE THE OPTICS

 Standard

System Type			CO ₂															
			NXT without beam expander			NXT with beam expander			UHS					HPD				
Power			all	10w	30w	all	10w	30w	all	10w	30w	60w	80w	all	30w	60w	80w	100w
scan field (mm)	working distance mm	focal length mm	beam diameter micron	power density KW/cm2		beam diameter micron	power density KW/cm2		beam diameter micron	power density KW/cm2				beam diameter micron	power density KW/cm2			
40x40	55	65	301	28,1	84,4	150	112,6	337,8										
60x60	85	95	385	17.2	51.6	192	68.8	206.5	256	38.7	116.2	232.4	309.8	137	408,4	816,9	1089,2	1361,5
75x75	115	125	506	9.9	29.8	253	39.8	119.3	337	22.4	67.1	134.2	178.9	180	235,9	471,8	629,1	786,4
100x100	150	160	648	6.1	18.2	324	24.3	72.8	432	13.7	41	81.9	109.2	230	144,0	288,0	384,0	480,0
100x100	190	200	810	3.9	11.7	405	15.5	46.6	540	8.7	26.2	52.4	69.9	288	92,2	184,3	245,7	307,2
150x150	230	240	-			486	10.8	32.4	648	6.1	18.2	36.4	48.5	346	64,0	128,0	170,7	213,3
200x200	310	320	-			648	6.1	18.2	864	3.4	10.2	20.5	27.3	461	36,0	72,0	96,0	120,0
250x250	400	410	-			830	3.7	11.1	1107	2.1	6.2	12.5	16.6	590	21,9	43,9	58,5	73,1

System Type			YAG NXT					GREEN HPD		Fiber NXT				
			all	4w	6w	10	20w	6w		all	10w	20w	30w	50w
scan field (mm)	working distance mm	focal length mm	beam diameter micron	power density KW/cm2				beam diameter micron	power density KW/cm2	beam diameter micron	power density KW/cm2			
55x55	128	100	27	1387.5	2081,3	3468.8	6937,6	14	8325.1	27	3481.9	6963.7	10445.6	17409.3
100x100	205	162	44	528.7	793,0	1321.7	2643.5	22	3172.2	44	1326.7	2653.4	3980.2	6633.6
160x160	321	254	69	215,1	322,6	537.7	1075.3	34	1290.4	69	539.7	1079.4	1619.1	2698.4
200x200	427	346	-	-	173,9	289,8	579.5	47	695.4	94	290.8	581.7	872.5	1454.2



Technology	CO2			FIBER				YAG			
	NXT	UHS	HPD	continuous	pulsed	pulsed	pulsed	NXT	HPD	Green	UV
name	NXT	UHS	HPD	UHS	NXT	UHS	HPD	NXT	HPD	HPD	HPD
	utility	speed	power	speed	utility	speed	power	utility	power	power	power
mirror size mm	8	6	15	6	10	6	15	10	15	15	15
focal length range mm	40-250	40-130	40-500	55-130	55-250	55-130	55-500	55-250	55-500	55-500	55-500
90 degree output	standard	standard	standard	standard	standard	standard	standard	standard	standard	standard	standard
0 degree output	standard	standard	no	no	no	no	no	no	no	no	no
beam expander	option	standard	standard	standard	standard	standard	standard	standard	standard	standard	standard
beam pointer	option	option	option	option	standard	standard	standard	standard	standard	standard	standard
focal length pointer	option	option	option	option	option	option	option	option	option	option	option
3D marking	no	no	option	no	no	no	option	no	no	option	option

CHOOSE THE ENCLOSURE

technology	CO ₂			FIBER				YAG			
				continuous	pulsed	pulsed	pulsed			Green	UV
name	NXT	UHS	HPD	UHS	NXT	UHS	HPD	NXT	HPD	HPD	HPD
	utility	speed	power	speed	utility	speed	power	utility	power	power	power
standard IP rating	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54
special IP rating	IP65	IP65	IP65	no	no	no	no	no	no	no	no
IP54 split kit	option	option	standard	no	no	no	no	no	no	no	no
IP65 split kit	option	option	option	no	no	no	no	no	no	no	no
warming kit	option	option	option	option	option	option	option	option	option	option	option
cooling kit	option	option	option	option	option	option	option	option	option	option	option
air blowing kit	standard	standard	no	no	standard	standard	no	standard	standard	standard	standard
air pressure kit	option	option	option	option	option	option	option	option	option	option	option

IP65 rating: for wash down applications and others where the laser system is used in a humid or wet environment.

IP65 Split kit: for applications where the head is cleaned with pressurized water.

Warming kit: for low temperature environments such as the Nordic countries and low ambient temperature industries. The minimum ambient operating temperature is reduced to 0°C.

Cooling kit: for high temperature environments such as tropical countries and high ambient temperature industries. The maximum ambient operating temperature is increased to 50°C.









MODULE 3:

RELIABILITY · VERSATILITY · PRECISION · EASINESS · ADAPTABILITY · COST · RESPONSIBILITY

CHOOSE THE CONTROLLER



TOUCH SCREEN	MARCA SOFTWARE
<p>There's a brand new user interface which means that SPA lasers are easy to install, program, operate and service.</p> <ul style="list-style-type: none"> • There's a Wizard to makes SPA lasers easy to install • There's a totally new and unique interface for operators and a best of class-hand held touch screen controller • On line help videos are available in the factory where you need them • LCD 10.1 inch Touch Screen • Fully tactile to improve the experience • 24 bit colours <div data-bbox="824 1002 1079 1410" style="display: flex; flex-direction: column; align-items: center;">    </div>	<p>The Marca programming software has been redesigned and is even more powerful and easy to use.</p> <ul style="list-style-type: none"> • Dynamic static print feature • Script generator for special applications • Crossfree fonts • Algorithms optimized for improved speed of scanners • Software made and optimized by Macsa • Enhanced fill algorithm (connect hatchlines for improved speed) • Second monitor feature for displaying message on a projector • Userinterface adaptable to PC panels with touch devices • 2D codes with visible human-readable text • Support multilanguages (chinese, arabic with ligatures, etc.) • Promotion software available • Z-axis Contolsystem • Accept DXF, JPG, BMP, TIF... <div data-bbox="1720 1002 1975 1410" style="display: flex; flex-direction: column; align-items: center;">    </div>

CHOOSE THE ELECTRONICS



MODULE 5:

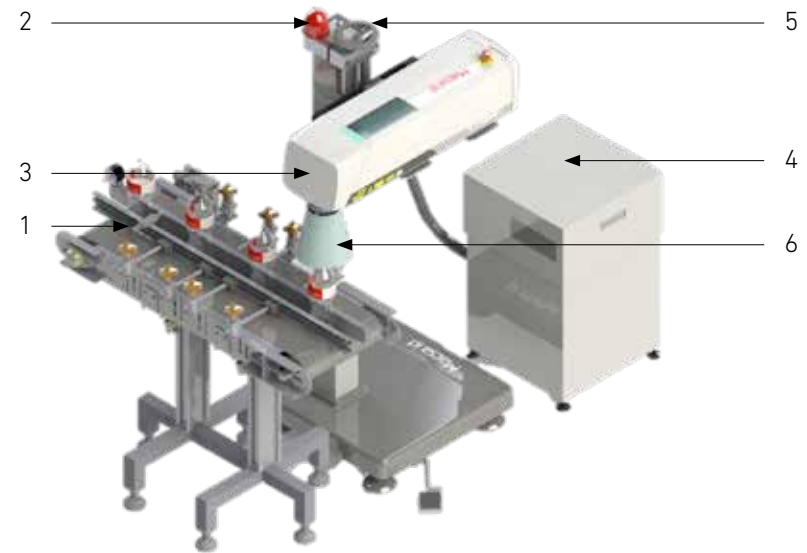
RELIABILITY · VERSATILITY · PRECISION · EASINESS · ADAPTABILITY · COST · RESPONSIBILITY

1. SHUTTER	2. CUSTOMER	3. PHOTOCELL	4. INTERLOCK	5. USB
Enable the output beam to be mechanically stopped at the outlet of the laser tube. This guarantees safety during maintenance and other work on the laser.	Used to monitor the status of the laser, to integrate with other systems. There are 12 input/output channels and direct connection to a PLC or similar may be made.	Used to trigger printing and to control the number of products printed in a certain time.	The interlock is a safety connection that disables the laser beam when 'open'. It may be connected to a cabinet door.	Used to enable extra interconnectivity. <ul style="list-style-type: none"> Connect to an RS232 port to control the laser via communication protocol. Receive and send data to a PLC or computer. Protocols are available for advanced integration.

6. ENCODER	7. ETHERNET	8. INTERFACE	9. KEY SWITCH	10. MAIN POWER SUPPLY CONNECTION
Used to monitor the speed of the line to improve the quality of print in dynamic mode and to minimize the noise caused by the conveyor by means of Macsa's proprietary VMS.	Used to connect the laser with MARCA message creation and laser control software. <ul style="list-style-type: none"> Enables the creation of complex labels and special objects actions scripts. Provides the facility to monitor the status of the laser and to control total prints, and modify its configuration. 	Enables the laser to be connected to an external user interface such as a touchscreen controller.	This interlock is a fundamental safety device. The laser cannot be operated without this switch being 'on'.	System ready to support 110v/230V and 50Hz or 60Hz. There is a special holding system for a better functionality.







CPU BOARD		DUAL CORE PROCESSORS
<ul style="list-style-type: none"> Form factor CPU DRAM Chipset Power Consumption Temperature Humidity 	Q seven Form Factor 2.0 compliant Intel Atom E3815 1.46GHz Single Core L2 Cache 5WTDP 8 GB Dual Channel up to 1GB onboard DDR3L with 1066MT/s Integrated in SoC Typ. Application 4.5W...12W Operating: -40 to +85°C Storage: -45 to +85°C Operating: 10 to 90% r.H non condensation	<ul style="list-style-type: none"> Redesigned Control Board compatible with all laser tubes and equipment configs 6 LED for indicate the status of most important signals Test Bridges for assist in the reparation Test points included for an easy measuring

CHOOSE THE ESSENTIALS



1. PHOTOCCELL KIT	2. BEACONS KIT	3. ENCODER KIT	4. FUME EXTRACTOR	5. FLOOR STAND	6. LENS PROTECTION
<ul style="list-style-type: none"> • Consumption 40mA Max • Sensitive distance 10cm • Output signal PNP/NPN • Response delay 0.5ms • Operating environment -25°-55°C • Indicator red Led (624nm) • Cover material ABS Plastic • Photocell + bracketup 	<ul style="list-style-type: none"> • Beacon alarm three colour signal 	<ul style="list-style-type: none"> • Body Aluminium • Shaft Stainless steel • Max. Speed 6000rpm • Max. Acceleration $[1.5 \times 10]^5 \text{ rad/s}^2$ • Vibration • $[100 \text{ m/s}]^5$ (from 10 to 200MHz) • Shaft dimmensions 6x10mm • Electronic levelout TTL (5VDC) • Number of pulses per revolution 3000 	<ul style="list-style-type: none"> • Integral silencer • 30,000 hours life • 99.997% efficiency at 0.3 micron Activated carbon mix 	<ul style="list-style-type: none"> • Floor stand adjustable in X/Y/Z axis • Support for Laser • Material aluminium • Dimensions 115x150x495mm 	<ul style="list-style-type: none"> • Plexiglass protection to prevent laser reflections and for safety purposes • Easy to mount • Anti-radiation protection class 1 • Materiall polycarbonate • Adapt to the laser

CHOOSE THE EXTRAS

			 <p>Manual</p>	 <p>Manual Automatic</p>	 <p>Manual Automatic</p>
1. CHILLERS	2. SAFETY KITS	3. CONNECTION BOXES	4. WORKSTATIONS		
<p>An external chiller is needed in some circumstances to further cool the laser with water. This will prevent the laser from over heating and print quality will thereby be maintained.</p>	<p>SPA lasers may be configured to operate at safety levels A, B, C, D and E according to EN ISO 13849-1:2008.</p>	<p>Multiple connection boxes are available for multiplatform connectivity I/O signals.</p>	<p>ILASERBOX 480/20 SP</p> <p>Compatible with Macsa's full product range. Several optional features:</p> <ul style="list-style-type: none"> • Touch-screen • Focal distance red pointer • Open door red pointer • Fume extractor • Manual table 	<p>ILASERBOX 480/850 RACK</p> <p>Compatible with Macsa's full product range. Several optional features:</p> <ul style="list-style-type: none"> • Touch-screen • Focal distance red pointer • Open door red pointer • Fume extractor • Manual and automatic tables • Performance level D: curtain and electric sensor 	<p>ILASERBOX 480/850</p> <p>Compatible with Macsa's single module lasers. Several optional features:</p> <ul style="list-style-type: none"> • Touch-screen • Focal distance red pointer • Open door red pointer • Fume extractor • Manual and automatic tables • Performance level D: curtain and electric sensor
<p>iLaserBox workstations are a compact, affordable, easy to set-up. They enable YAG and fiber lasers to be operated safely to class I standard and are used in low volume semi-manual laser marking applications.</p>					

CHOOSE THE EXPERIENCE

A laser is just hardware until it's installed and operational. Macsa provides a range of services to ensure that users are fully satisfied.

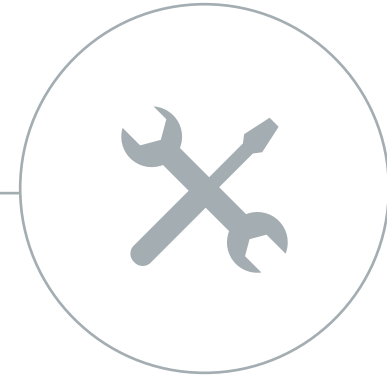


ADVICE AND CONSULTATION

Macsa provides advice to its customers in:

- regulatory compliance
- supply chain management
- factory integration

It makes its experts available to help its customers to make more effective use of their coding and marking equipment, to respond to changing external needs and to run their factories more efficiently.



INSTALLATION

Macsa operates globally with a network of independent value adding distributors. It has a rigorous training and certification program so that every customer which buys a Macsa laser gets the same high quality product experience.

The start of this experience is the installation and because of the importance of good installation to ongoing reliable operation the process is standardised and supported by an installation wizard and in situ video guides.

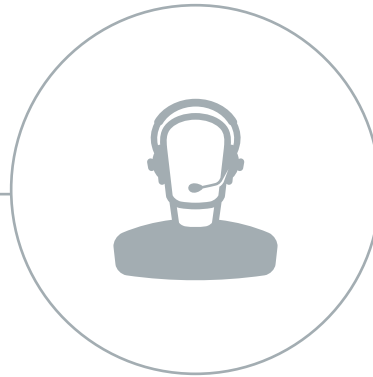


TRAINING

Macsa and its distributor partners offer training to their customers for two main reasons. The first is to ensure ongoing reliable operation. The second is to enable them to take full advantage of the powerful Marca message creation and laser driver software. This reduces their dependency on Macsa. Costs are lower and user satisfaction is increased.

Three levels of training are available:

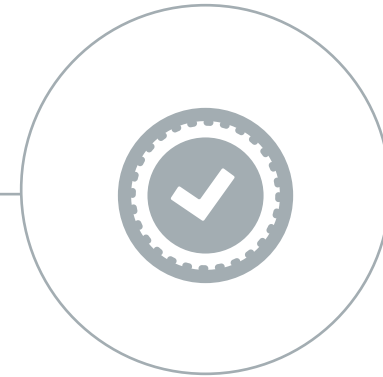
1. User training: the basics of start stop and simple message management
2. Full message creation
3. Advanced laser settings



TECHNICAL SUPPORT

Even the most reliable lasers need occasional technical support and like all production line equipment they benefit from regular maintenance. Macsa's world-wide network provides a consistent level of response appropriate for the location of the laser.

Standard maintenance plans are available from all Macsa distributors. These range from basic plans with just a regular maintenance to more comprehensive offerings designed to minimise long term cost of ownership.



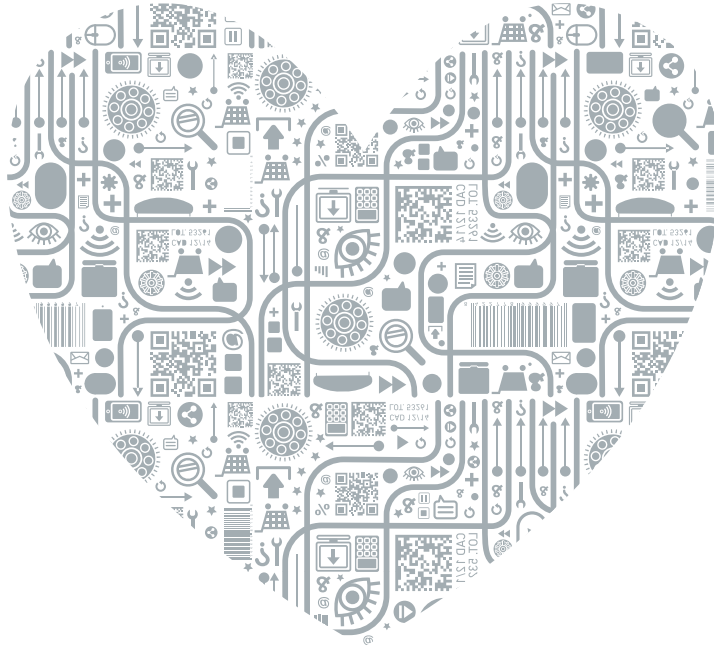
EXTENDED WARRANTY

Nobody likes to face repair and component replacement costs after the expiry of a vendor's warranty. Macsa and its partners offer 1, 2 and 3 year extended warranty programs so that users of Macsa lasers can be even more confident that they will not face unexpected charges.

"Because Macsa supplies its lasers via value-adding distributors worldwide service standards may vary"

MACSA WORLD WIDE





MACSA we care

SPA by **MACSA**

modular, better, complete

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