



Model-FXTM

LASER GENERATOR FOR CHAIN WELDING

LASER GENERATOR MODEL-FX

Model-FX is a LASER Generator with Fiber Optic Delivery, specially developed to **integrate LASER welding onto Chain Making Machines**.

The main advantages of *Model-FX* are the following:

- Power Stability, even at High Speed
- No Black Dust near the welding area
- Deep Penetration and Welding Strength
- Smooth and Clean Surface of the Spot
- Total compatibility with all Chain Making Machines



Thanks to the High Quality of the LASER beam generated by *Model-FX*, even **welding of the most reflective metals is made easy**.

With *Model-FX* the side effects of the LASER welding are practically void, since the LASER radiation can be precisely focused, ensuring minimal heat output.

Available in different configurations - with 60 or 100 or 150 Joule of Power - powered by Single or Double LASER Generator - thanks to its very efficient LASER Source, *Model-FX* guarantees total versatility of application and provides **extremely High-Quality welding, on all precious metals**.

Fruit of a hard engineering work, ***Model-FX* is developed to be fully compatible with the most famous Chain Making Machines brands**.

Equipped with cutting-edge technology, either in terms of electronic and optical components, *Model-FX* does not fear **heavy duty cycle, such as 24h / 7d**, and it is capable to stand very high operational frequencies (Max 1800rpm / up to 900rpm (15Hz) at 2.5kW - 2.5ms).

MAIN FEATURES

The structure of *Model-FX* is shaped to protect the internal components and, at the same time, the design allows a **very efficient ventilation as well as an easy access to the three main areas of the machine** (LASER Generator, Cooling System, Electronic Panel) so to facilitate the maintenance of the internal components, either for routine or extraordinary service.

The High-Efficiency Cooling System guarantees **24h / 7d working cycle**, within a working environment up to 39°C room temperature, **without the help of any additional External Chiller**.

The command interface is designed to make *Model-FX* **totally compatible with any Chain Making Machine** and the software allows an easy management of all parameters and settings.

The OS is designed to be intuitive, user-friendly and allows easy access to all functions. The soft scaling of the working parameters (1000 steps) allows a precise and accurate setting of the power.

The LASER Generator's case is machine-made from a single Aluminum block, characteristic that guarantees a strong structural stability.

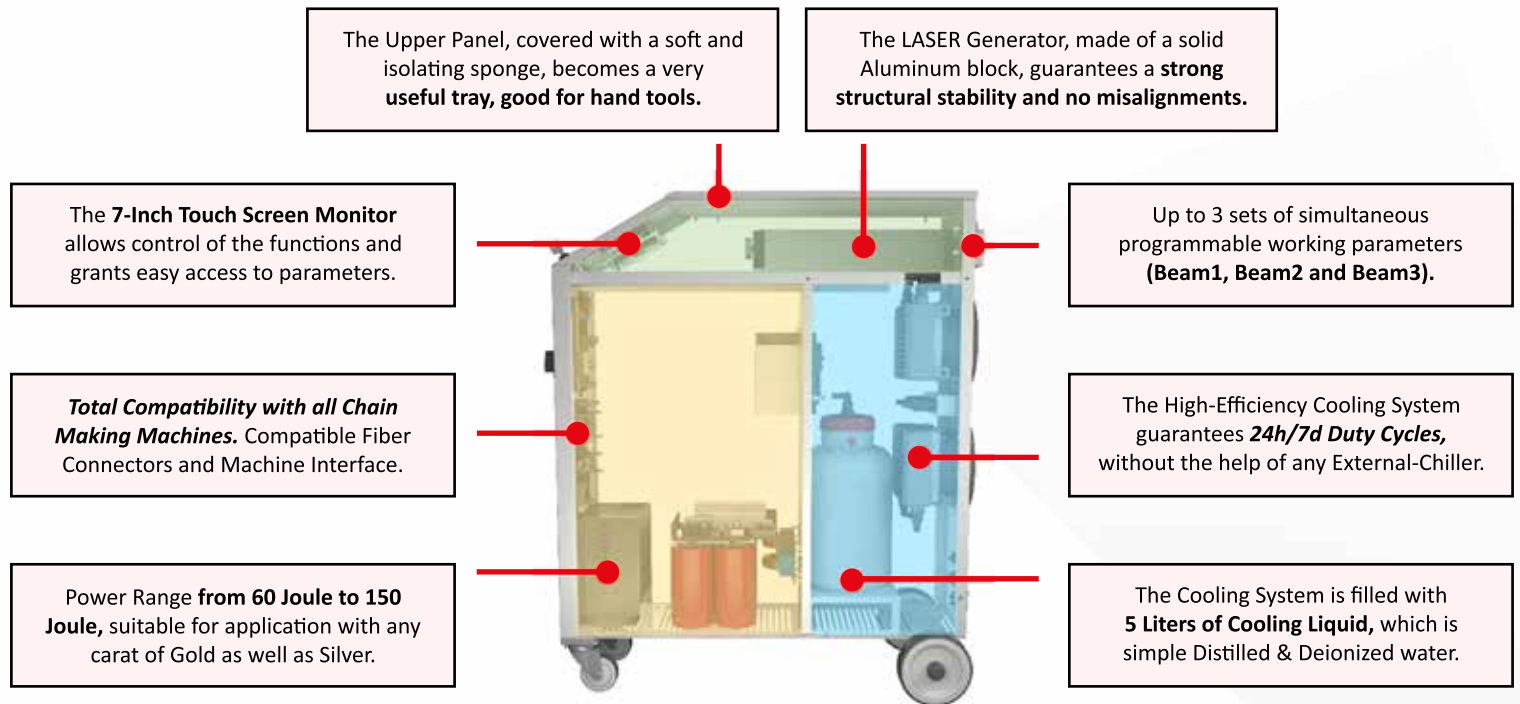
All optical components (lenses, mirrors, lamp, crystal and ceramic cavity) are built-in-solid onto the Aluminum block and the ***Model-FX's special mounting technique takes to zero the risks of misalignment*** between the LASER generator and all the other Optical components.



CHARACTERISTICS

The main characteristics of *Model-FX*, beside a solid structure and a very efficient cooling system, are concentrated within the LASER Generator which, thanks to *the Premium Quality optical components*, can deliver a **LASER beam of Superior Efficiency**.

The high-quality LASER does successfully weld even the thickest wires, which can then easily stand further processing such as hammering, compacting and limbering, **without the use of soldering powder**.



MODEL-FX "DualCore"

With the aim of offering an innovative solution to optimize costs and space, without compromising on reliability and quality, **ProLASER™ has integrated two separated LASER Generators into a single Model-FX**.

The innovative Double LASER Generator technology, named "**DualCore**", integrates two independent LASER Generators within the same unit and it allows the application of **Model-FX "DualCore"** onto two separate Chain Making Machines.

Thanks to its two embedded independent LASER Generators, Model-FX "Dual Core" is capable to deliver full power to each of the fibers simultaneously, managing the power settings individually, as easy as working with two single units. **No beam splitter, no power or time sharing... a real and pure 2x60J, 2x100J or 2x150J.**

This special version of **Model-FX "DualCore"** makes possible **to weld on two separated Chain Making Machines** or on two different workstations, at the same time.

Model-FX "DualCore" can be programmed to make each of the two LASER outputs free and totally independent from the other one or, alternatively, both the LASER outputs can be "sync" so to deliver the same power through the Optical Fibers, at the same time.



TECHNICAL DATA

	Model-FX/60	Model-FX/100	Model-FX/150
LASER Source	Nd: YAG	Nd: YAG	Nd: YAG
Wavelength	1064 nm (LASER Class 4)	1064 nm (LASER Class 4)	1064 nm (LASER Class 4)
Average Power	95W	100W	110W
Peak Power	5,0kW	5,0kW	7,5kW
Max Energy	60 Joule	100 Joule	150 Joule
Max Energy in 3mS	16 Joule	22 Joule	31 Joule
Pulse Frequency	up to 30Hz	up to 30Hz	up to 30Hz
Pulse Duration	0,1 ÷ 12 mS	0,1 ÷ 20 mS	0,1 ÷ 20 mS
External Control	7" Color TouchScreen	7" Color TouchScreen	7" Color TouchScreen
Max Working Temp.	39°C	39°C	39°C
Power Requirement	1-Ph, 220/230 V, 50/60 Hz, 10A <i>DualCore- 16A</i>	1-Ph, 220/230 V, 50/60 Hz, 10A <i>DualCore- 16A</i>	1-Ph, 220/230 V, 50/60 Hz, 10A <i>DualCore- 16A</i>
Cooling System	Forced Air & Double Radiator <i>DualCore- Triple Radiator</i>	Forced Air & Double Radiator <i>DualCore- Triple Radiator</i>	Forced Air & Double Radiator <i>DualCore- Triple Radiator</i>
Size (L x W x H)	Model-FX - 71 x 23.5 x H 85 cm <i>DualCore- 71 x 32 x H 87,5 cm</i>	Model-FX - 71 x 23.5 x H 85 cm <i>DualCore- 71 x 32 x H 87,5 cm</i>	Model-FX - 71 x 23.5 x H 85 cm <i>DualCore- 71 x 32 x H 87,5 cm</i>
Net Weight	Model-FX - 47 kg <i>DualCore - 68kg</i>	Model-FX - 47 kg <i>DualCore - 68kg</i>	Model-FX - 47 kg <i>DualCore - 68kg</i>
Fiber Connection	Mitsubishi D-80LKA	Mitsubishi D-80LKA	Mitsubishi D-80LKA
Fiber Min. Diam	200μ	200μ	400μ

(with Model-FX "DualCore" the value of Average Power, Peak Power, Energy, Pulse Frequency and Pulse Duration must be considered pre-each-output)



Model-FX™
DUALCORE



Model-FX™



LASER Product Class 4
Complies with EN 60825-1

LEGAL DISCLAIMER

This device has been designed in compliance with EN 60825-1 and EN 60204-1 safety standards to prevent injury to the operator if used correctly and properly. However, no engineering design can make this device safe unless it is used and maintained properly and in compliance with safety standards. The User's Manual should be read carefully and in its entirety before performing any operation. Failure to follow instructions and safety standards may cause injury to the operator and to the device.

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