

**Panasonic**  
ideas for life

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**LASER MARKER**  
LP-S500W



## 42W, IP67G FAYb laser revolutionizes laser marking!

The LP-S500W series is a culmination of technologies that have been developed over many years. With its high power output and newly developed optical system, the LP-S500W series not only delivers clear, black laser annealing, but it is also easy to set up. This FAYb laser marking system has revolutionized black laser annealing.

*SIMPLE*

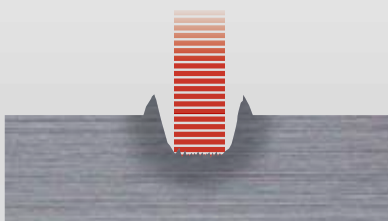
*FLEXIBLE*

*TOUGH*

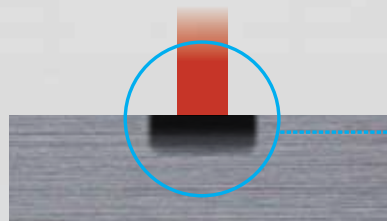


### What is black laser annealing?

Black laser annealing is a marking technique that uses laser irradiation to heat up metal surfaces and form oxide films that appear as black letters. In contrast to traditional techniques that etch the metal surface, annealing produces no depressions or burrs. This makes black laser annealing the best marking technique for objects such as bearings that require absolutely smooth surfaces.



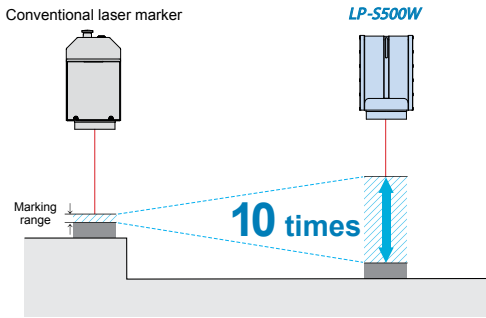
Traditional pulse laser marking



LP-S500W



Bearings

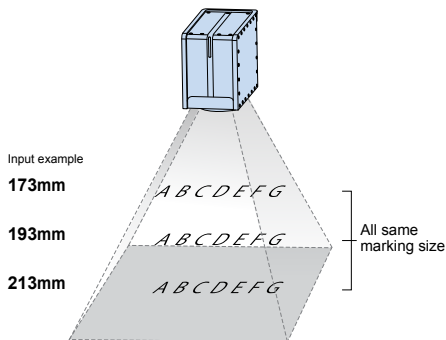
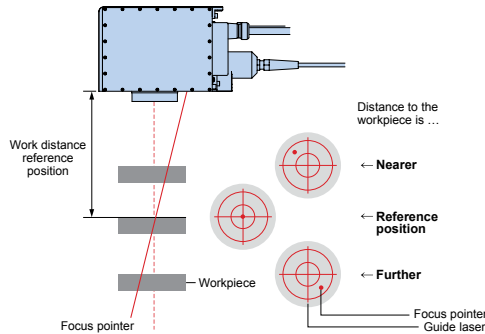


## Wide marking range

Reliable black laser annealing used to require strict management of the target's work distance. With the LP-S500W series, you now have  $\pm 30\text{mm}$  more flexibility in work distance thanks to a new optics design. Process changeovers for lines producing products of different sizes are no longer necessary.

## New focus pointer

The LP-S500W series allows the operator to visualize the markable range based on the relationship between the positions of the guide laser and the focus pointer. Now you can check target object position and height based on the laser pointer's marker positions. Deviation amounts can also be checked. With this feature, equipment setup and maintenance gets a much easier.

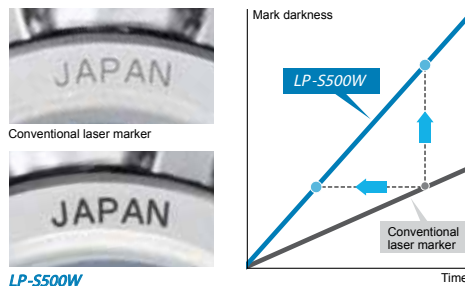


## High precision marking made simple

For accurate marking on workpieces with different heights, marking sizes, positions, etc. need modification in consideration of each target's height. With the LP-S500W series, marking size and position are corrected automatically by entering the distances to each target object.

## High speed black marking

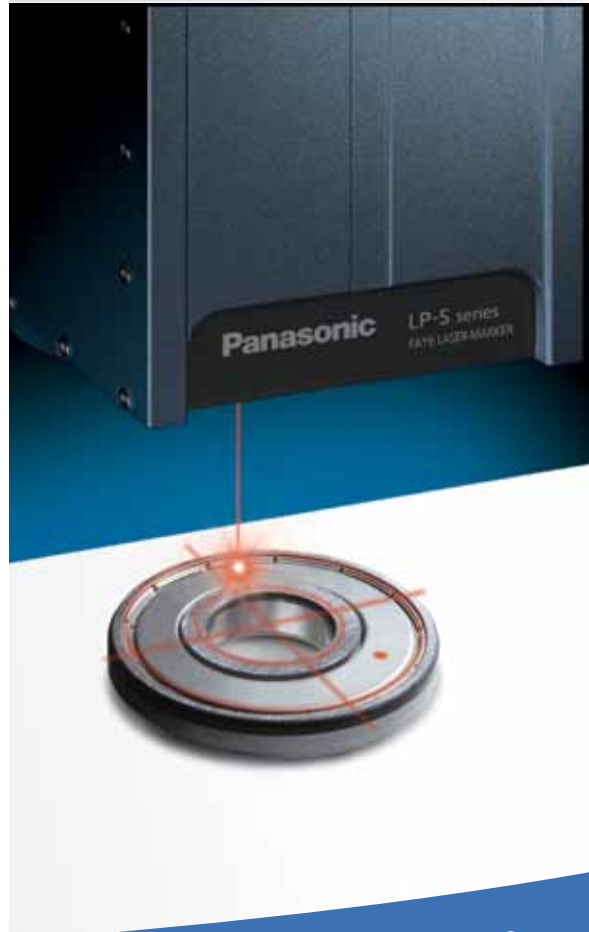
Due to its high 42W output power, the new optical design and the fact that the beam is a continuous wave, the marking is much darker than that produced by a pulsed laser. Moreover, marking time can be reduced to increase production speed.



## Simple

Black laser annealing made simple thanks to a new optics design

Black laser annealing oxidizes the surfaces of metals, turning them black. To achieve the perfect black tone, strict optimizations were performed. With the LP-S500W series, we have made black laser annealing simple thanks to a new optics design. Easy to configure, the LP-S500W produces beautiful, reliable black marking.



## Flexible

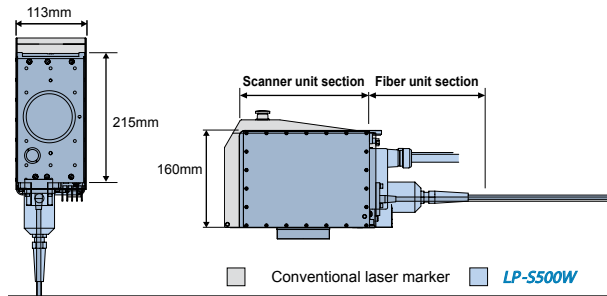
A small head and the ability to remove and reinstall the fiber unit provides freedom in facility design

Meet the industry's first removable fiber unit, achieved through unique design. Thanks to a small head and removable fiber unit, integration with other equipment just got simpler. This allows for dramatic improvements in workability and equipment design freedom.



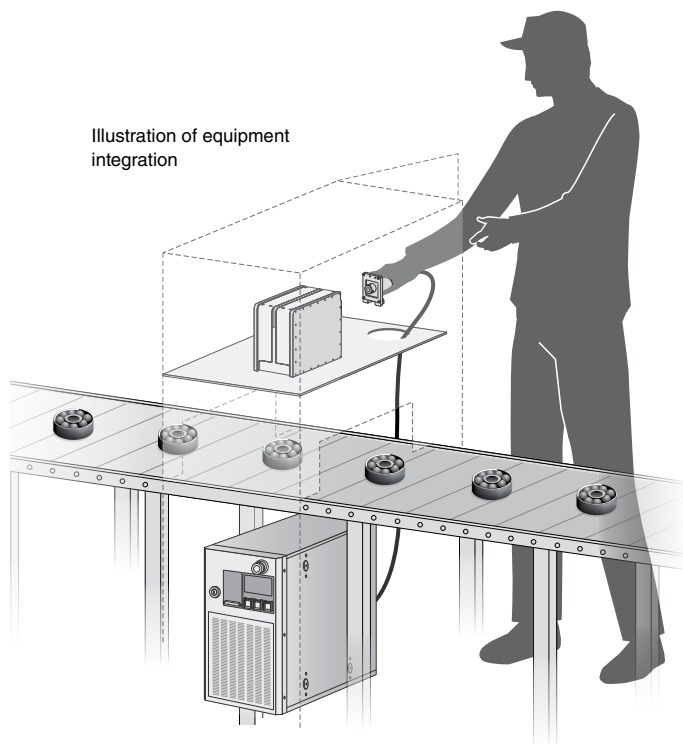
## Small head

The LP-S500W series takes up close to 15% less floor space with about 20% less volume compared to other models. Save floor costs by using more space-saving equipment.



## Removeable fiber unit

Thanks to the removable fiber unit, a first for the fiber laser marking industry, it is now easier than ever to maintain and integrate with other equipment.

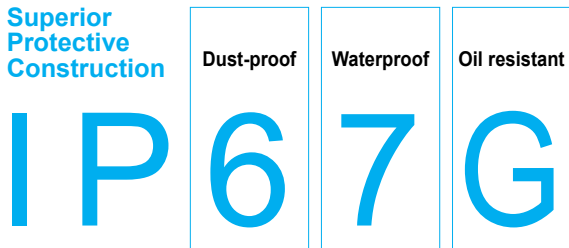


## Fiber unit removability advantages:

- More compact equipment, lower costs
- Enhanced equipment assembly
- Easier dismantling when transporting equipment
- Simpler laser marker maintenance

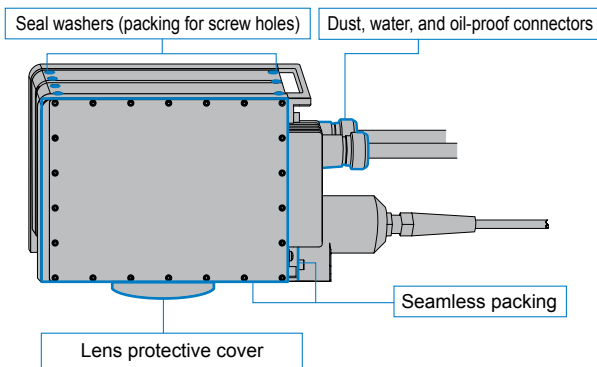
## What does IP67G stand for?

The IP (Ingress or International Protection Code) provides a concise overview for degrees of protection, e.g. against dust, water, oil mists, etc., and is defined by IEC 60529. IP67G represents a degree of protection suitable for harsh industrial environments.



## IP67G fanless head

The LP-S500W series features minimum frame seams. Minor seams and screw holes are completely sealed, producing high sealing performance. Maximum cooling efficiency is also achieved allowing the use of a fanless head for thorough cooling.



## High quality protection parts

Seamless sealing materials are used that have low water absorption and excellent oil resistance properties. Connectors are dust, water, and oil-proof. The lens has a protective glass cover.

## Tough

The resilient “IP67G fanless head” body stands up to harsh environments

With a protective construction that allowed the creation of the “IP67G Fanless Head”, a first for the laser marking industry, the LP-S500W is strong enough to withstand the dirt, dust, water drops, oil mists and other elements common to harsh environments at manufacturing sites.



## System safeguards

### Power check

It is now easy to check the current laser output ratio when shipping products. Total laser irradiation time can also be checked on screen, allowing you to reduce time spent on maintenance and management.

### Laser OFF in case of output error

The marking trigger signal and laser output are constantly monitored so that laser excitation is automatically turned OFF if the cable is disconnected accidentally. This safety feature contributes to accident prevention.

### Lens protection cover

The outside of the laser beam port is equipped with protective glass to safeguard it from dust or damage, ensuring stable operation.

### Emergency stop switch

The front of the controller is equipped with an emergency stop switch, enabling the laser to be stopped immediately.

## Operability



### Simple operation

A color touch panel is used so that even persons unfamiliar with machine operation can easily handle it. The ergonomically designed panel is easy to operate and can either be mounted directly on a machine or held in your hand. An intuitive and easily understandable software package allows the operator to smoothly access any setting screens.

### Flexible programming and monitoring

The laser marker comes standard with PC software that allows you to easily configure marking data and layout. You can also create data on a PC in offline mode, which means data can be configured without stopping the laser marker. In addition, connecting a PC to the laser marker allows you to check the operation status, I/O status and error log.

### Quick and simple setup

Setting up and operating the laser marker is easy. Just connect a commercially available monitor and a mouse. The monitor allows you to check marked content from a distance and quickly verify any changes made.



### Built-in USB port

Configuration details can be stored on a commercially available USB flash drive, enabling backup of marking conditions or copying to multiple laser markers.

## Marking samples



Bearings



End mills



Piston rings



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## Asia Pacific

## China

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