

Panasonic
INDUSTRY

LP-RF

Laser Marking Systems

Easy Handling
& High Quality





In 1999, Panasonic introduced the **world's first Laser Marker** equipped with a **fiber laser oscillator**.

Since then, the company has advanced the product function to respond to customers' needs and released **four unique premium fiber Laser Markers**.

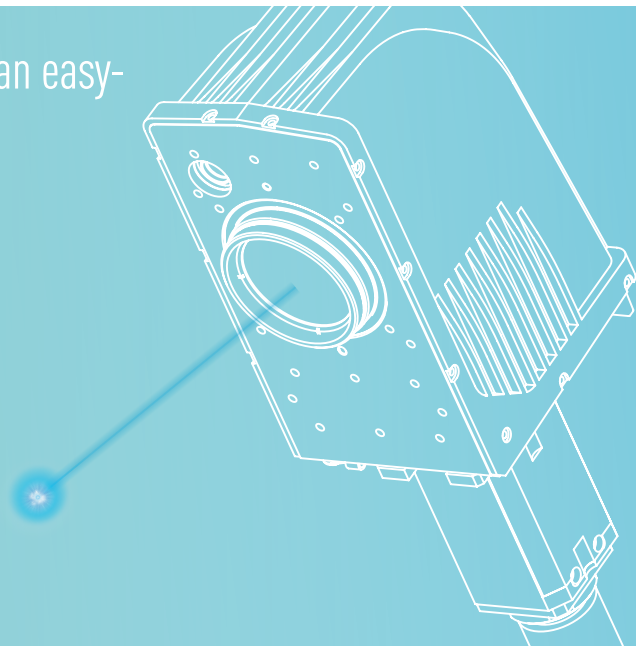
Panasonic recently re-examined the essentials key-functions of a Laser Markers, and added an **easy-to-handle model** to the lineup – the new **LP-RF series**.

The new Panasonic Laser Marker model offers an easy-to-handle system for easy applications.

THE LP-RF

A laser marker that is easy to use:

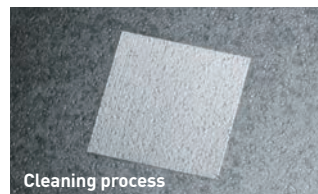
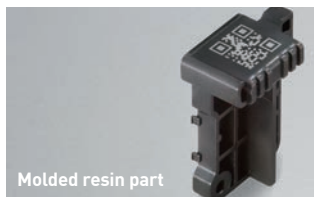
- Anywhere
- Safely
- Reliably
- Efficiently



CHARACTERISTICS

20 W fiber laser for a diversity of easy applications

- For plastic and metal applications
- For marking two-dimensional barcodes on iron, SUS, aluminum and other metal parts
- For marking extremely small characters on parts with a limited marking space such as semiconductor packages and connectors



LP-RF

Connection to image processing device

EtherNet/IP & PROFINET

IP64 rating
Compact, fanless head

Detachable head

Controller with high noise resistance

High-performance galvano scanner



HIGHLIGHTS FOR CONFIGURATION



New software – NAVI Smart

The new „Laser Marker NAVI Smart“ software is provided with the product. Using the software, **characters, logos and 1D/2D code** can be arranged on a **PC or tablet**. The software interface **can be customized** to suit each work environment. The screen can be switched according to the purpose of use, such as for parameter setting or for operators.



Simple 3-step setting

1.
Arrange the characters and figures to be marked.



2.
Set the laser radiation condition with the smart setting function.



3.
Emit the laser beam using the test marking function.



easy and perfect
laser marking in high
quality



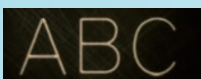
Iron, stainless steel (shallow engraving)



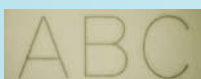
Iron, stainless steel (deep engraving)



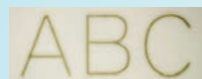
Aluminum (deep engraving)



PP (black)



PC (white)



ABS (white)

Smart setting function

The one-touch function is packed with an extensive know-how of **laser marking parameters such as laser power, scan speed and pulse cycle**.

The user can select a desired marking result from 16 types of materials and images.

- Adjustment aid
- Database with preprogrammed laser parameter and settings
- Choose the preferred material and color – find the right settings

HIGHLIGHTS FOR INSTALLATION

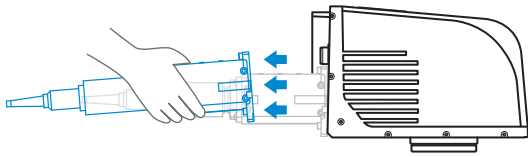
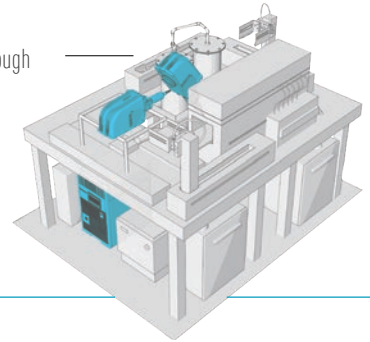


Removable head

No more cumbersome installation work. This contributes to the **reduction of man-hours** required for installation and maintenance.

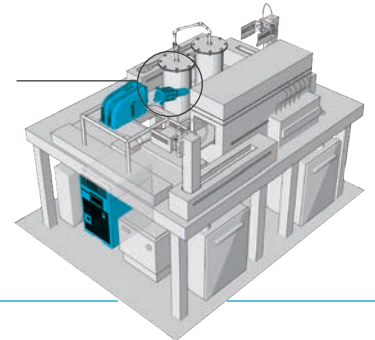
The head unit has to be moved through the clearance in the equipment.

Product with non-removable head



Only the fiber unit needs to be moved through the clearance in the equipment.

Product with removable head



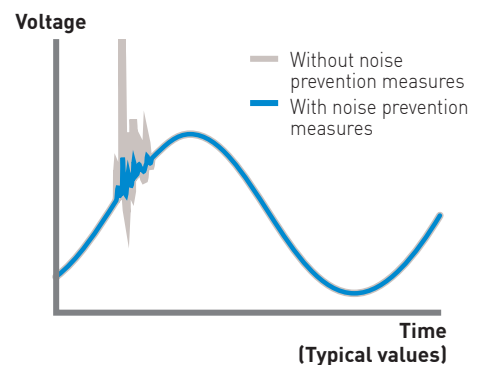
IP64

The head was developed based on the fanless head used in the LP-M series, so it is resistant. There will be no problems caused by water drops or dust entering the system.



Controller with high noise resistance

Electrical noise produced by equipment using a large amount of electrical current or generated in the surrounding area can affect the operation of the internal parts of the equipment and cause problems. The controller of the LP-RF series is equipped with anti-noise parts such as a power transformer and varistor to ensure safe and reliable use of the Laser Marker during the production process.



FT noise
Surge noise

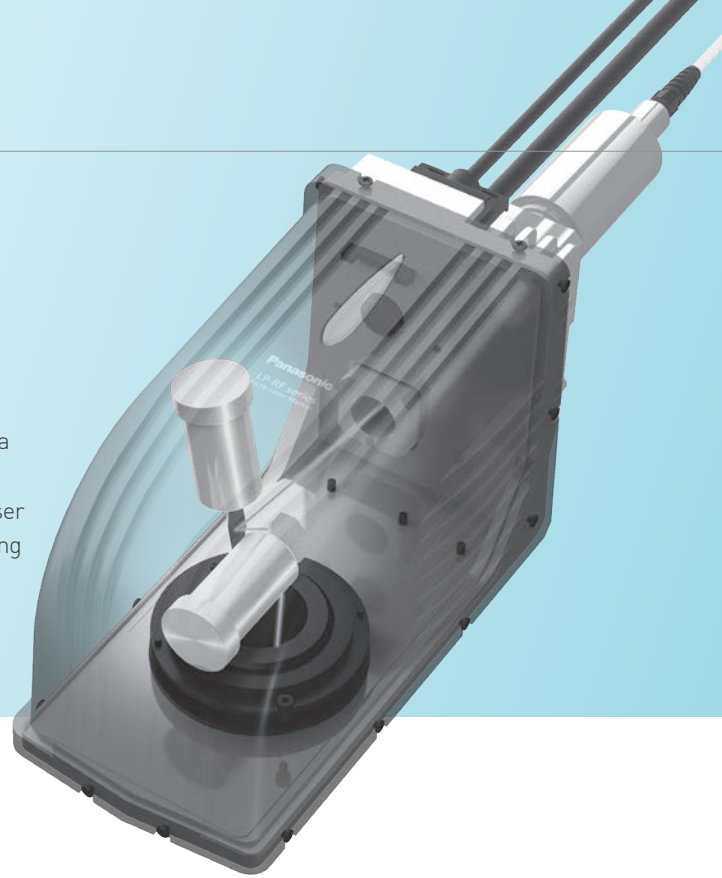
Reduced by 90 %
Reduced by 70 %

HIGHLIGHTS FOR THE RUNNING PROCESS

20 W

High-performance galvano scanner

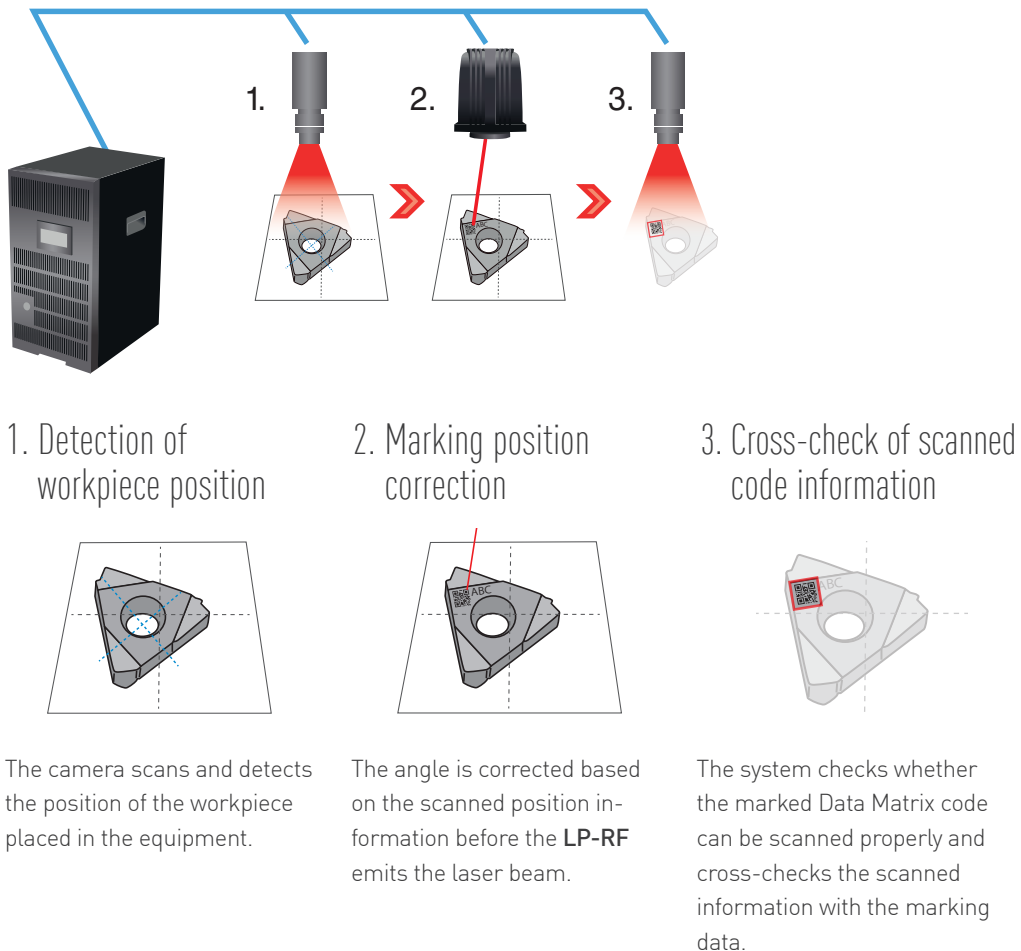
The built-in measurement and control system allows a balanced and optimal fine adjustment of the galvano scanner and its optical mirrors inside the compact laser head. The system provides beautiful and stable marking results even when the laser marking is performed at high speed.



Direct linkage with image processing device

Automatic marking position correction and scan check

The LP-RF series can be connected directly to a machine vision system. This enables the execution of a series of operations, such as detection of the workpiece position, correction of the marking position and cross-checking of scanned information of marked Data Matrix code (DMC), etc., without using a PLC.



HIGHLIGHTS FOR THE RUNNING PROCESS



New interfaces for remote control

In addition to the connector for I/O control and the RS232C connector, new EtherNet/IP and PROFINET network units are provided to support the PLC connection via these industrial networks. The installation of the additional network units is easy and can be performed at any time.



PROFINET unit and EtherNet/IP unit

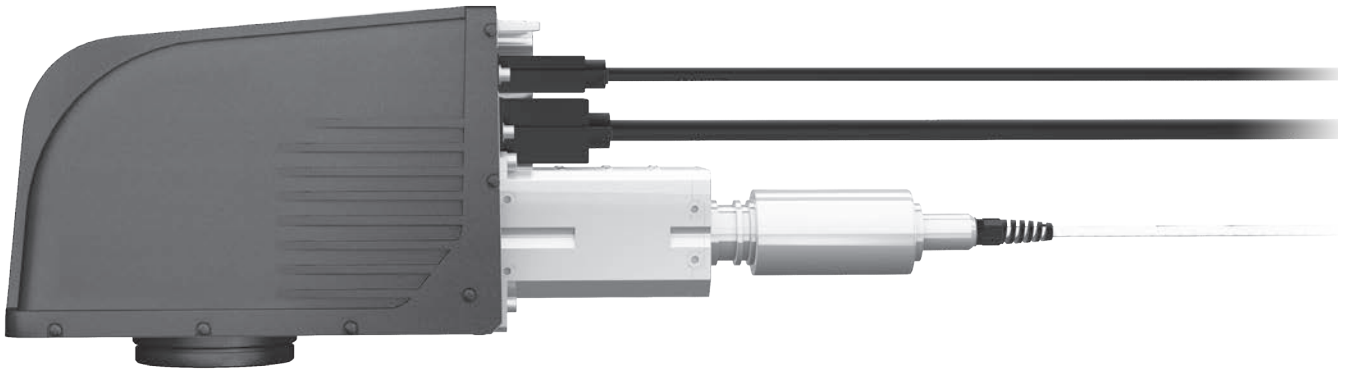
- Support industrial networks
- Optional accessory
- Retrofittable
- Easy installation



Integrated touchscreen

- Program file number
 - Serial number
 - Error code report
- Faster troubleshooting
→ Better status information





HIGHLIGHTS FOR THE RUNNING PROCESS



On-the-fly marking function

The marking function for on-the-fly workpieces enables laser marking on a workpiece moving at high speed. This eliminates the need to keep the line stationary for laser marking.



Error history display

Displays a history of errors as well as the time and date of occurrence. Errors are listed not only as codes, but with an explanation so that an operator can verify the type of error and when it occurred.

I/O check monitor

The ON/OFF status of the input and output terminals can be checked on the monitor. I/O signals can be quickly checked at system start-up.



MAINTENANCE



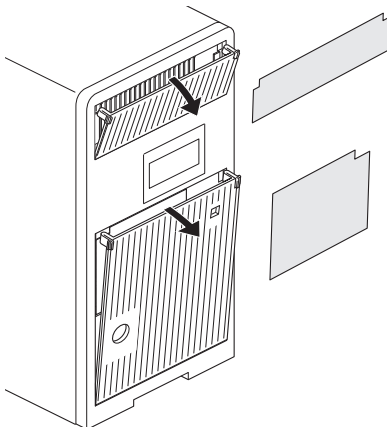
Easy maintenance – long-term reliable operation

For long and stable operation of your Laser Markers, Panasonic offers a full lineup of maintenance parts. They expand the range of maintenance work that can be performed by the user.

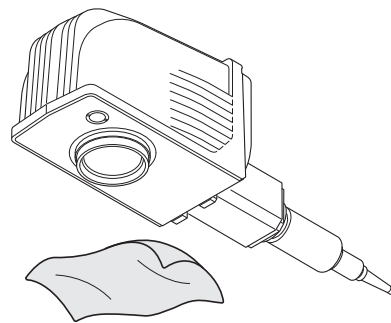
Daily maintenance

When the Laser Marker is used in an environment full of oil mist or dust, it is recommended to wipe the lens protection glass on the laser head with a dry cloth and clean or replace the fan filters in the controller.

Replacement of fan filters

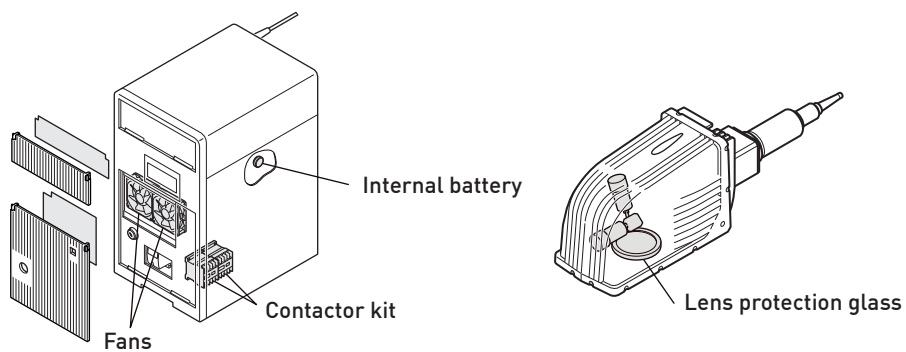


Cleaning of lens protection glass



Easy replacement of limited-life parts

In the past, limited-life parts had to be replaced by our service personnel. But now that the mechanical components of the **LP-RF** series have been redesigned, so that they can be replaced by the user.



Specifications

Item		Model No.	LP-RF200P
Marking laser	Laser type		Yb fiber laser; $\lambda = 1,064$ nm class 4 laser
	Output class		20 W
Guide laser / pointer			Red semiconductor laser; $\lambda = 655$ nm; class 2 laser, maximum output 1 mW
Scanning method			Galvano scanning method
Marking field			90 mm × 90 mm
Work distance			190 mm
Scan speed			Maximum 12,000 mm/s
Compatible line speed			Maximum 240 m/min.
Character types			English uppercase letters, English lowercase letters, numerals, katakana, hiragana, kanji (JIS No. 1 and No. 2 standards), symbols, user-registered characters (up to 50), True type
Barcodes			Code39, Code128 (GS1-128), ITF, NW-7, EAN/UPC/JAN GS1 DataBar Limited, GS1 DataBar Stacked, GS1 DataBar Limited CC-A, GS1 DataBar Stacked CC-A
2D codes			QR Code, Micro QR Code, iQR Code, Data Matrix, GS1 Data Matrix, PDF417
File format for logo data			VEC, DXF, HPGL, BMP, JPEG, AI, EPS
Communication ports			I/O terminal block (40 pins), I/O connector (40 pins)
Interface			EIA-RS-232C, Ethernet
Optional interfaces			PROFINET, EtherNet/IP, PROFINET Unit (LP-ANW11), EtherNet/IP Unit(LP-ANW10)
Cooling method			Head: Naturally air cooling, Controller: Forced air cooling
Power supply			180 - 264 V AC (including power voltage fluctuation of $\pm 10\%$), 50/60 Hz
Power consumption			Maximum 370 VA (max. 2.1 A)
Protection			Head: IP64
Ambient temperature			0 to +40 °C
Storage temperature			-10 to +60 °C
Ambient humidity			35 to 85 % RH
Net weight	Head		≈ 8 kg
	Controller		≈ 37 kg
Applicable standards			IEC 60825-1, FDA regulations, GB standard, KC mark
Supplied software			Laser Marker Smart Utility (Laser Marker NAVI Smart, logo data editing software, ExportVec, font maker software)
Laser Marker NAVI smart display language			Japanese, English, Chinese (simplified Chinese), German
OS supported by the supplied software (Note 1)			Windows® 10 Pro (32 bit, 64 bit), Windows® 8 Pro (32 bit, 64 bit), Windows® 7 Professional SP1 (32 bit, 64 bit)
Optimal power cable			LP-ACA12 - Rating 250V, VDE standards compatible (European standard)

Notes:

1) Microsoft and Windows are registered trademarks or trademarks of Microsoft Corporation in the United States and other countries.

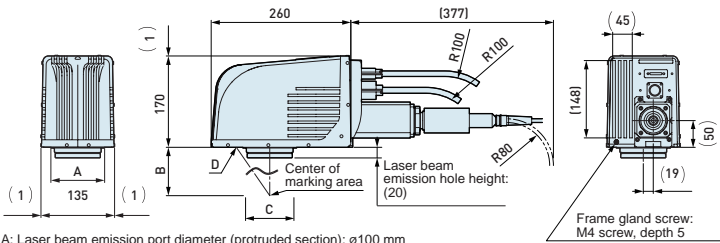
Recommended use of a dust collector

Depending on the workpiece to be marked, harmful gases or smoke may be generated during marking. If your application falls under this description, use a dust collector. For more information, contact your sales representative.

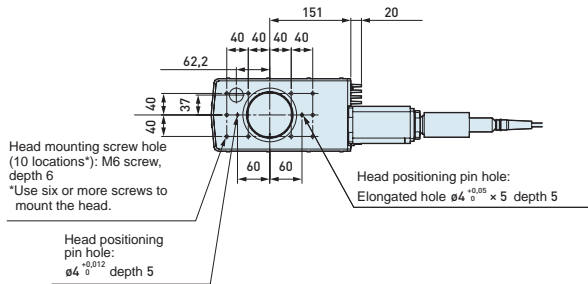
DIMENSIONS Unit: mm

LP-RF200P

Head



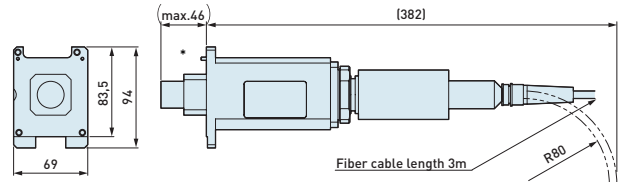
- A: Laser beam emission port diameter (protruded section): $\varnothing 100$ mm
- B: Work distance: 190 mm
- C: Marking field (X, Y): 90 mm \times 90 mm
- D: Laser pointer beam emission port diameter: $\varnothing 26$ mm (lens section: $\varnothing 20$ mm)



LP-RF200P

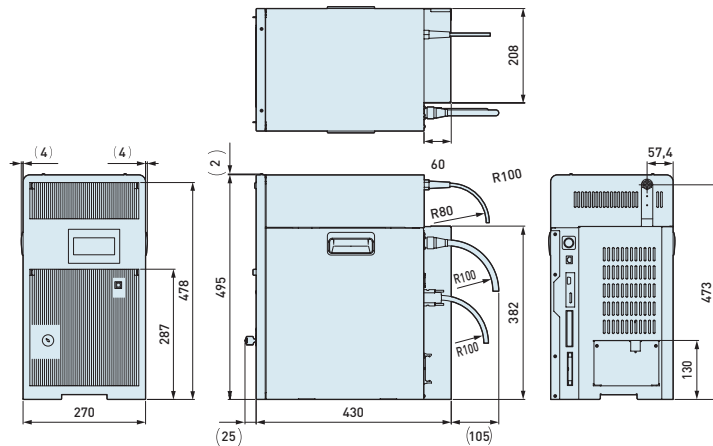
Fiber unit

Removed fiber unit

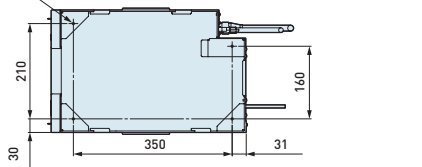


LP-RF200P

Controller



Controller mounting screw hole: M5 screw, depth 10





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Asia Pacific

China

Japan

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