



ML-69B Series - 2000 W - 5000 W Fiber Laser Welder

The ML-69 B Series are high-power fiber laser welders with a maximum output of 5 kW. High power laser enables welding of even thick plates at a high speed.

One compact, proven industrial package with the Miyachi worldwide support makes it an ideal production tool. The integrated back reflection measurement safeguard the laser in all circumstances against damage due to back reflection.

The good beam quality of the fiber lasers coupled with high CW (Continuous Wave) powers offers deep penetration welding at high speeds. These fiber lasers replace not only traditional CO2 laser and Disk lasers, but also MIG, TIG and electron beam welding.

The ML-69 B Series have the advantage of excellent laser oscillation efficiency, energy saving and low cost of ownership, resulting in contributing to environmentally friendly manufacturing. The integrated power measurement and active regulation provides exceptional stability of the pulse energy (typical <0,5% pulse to pulse).

The ML-69 B Series performs high-speed CW welding and welding of precision metal plates. Typical applications are welding of electronic components, automotive parts, mechanical parts, plastic parts, medical equipment and precision sheet metals; sealing of minute parts; fine spot welding; high-speed seam welding; thick plate welding; etc.

Key features ML-69B Series - 2000 W - 5000 W Fiber Laser Welder

- > Fiber Laser Welders from 2 kW – 5 kW
- > Optional two-way time-share contributes to improvement in productivity
- > Enables the use of accurate 200 micron fiber cores to achieve a high energy concentration for welding difficult metals at high speed
- > High-efficiency fiber laser saves power consumption
- > Easy operation via touch screen • Program pulse shaping, modulation control and monitor operation status without the need for an external PC
- > Error details, power monitor status and I/O monitoring shown on a built-in screen
- > Standard safety shutter by beam switch method

- > Long-life laser diodes provide high reliability and improves maintenance cost

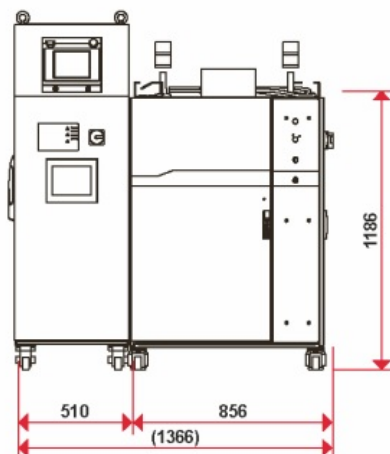
Specifications ML-69B Series - 2000 W - 5000 W Fiber Laser Welder 1/2

Model	ML-6920 A	ML-6930 A	ML-6940 A
Maximum rated output	2000 W	3000 W	4000 W
Maximum peak power	2000 W	3000 W	4000 W
Output mode repeat	Standard: 0.1 - 500.0 msec (0.1 msec.incremental) - Switch to: 0.05 - 50.00 msec. (0.05 msec. incremental)	Standard: 0.1 - 500.0 msec (0.1 msec.incremental) - Switch to: 0.05 - 50.00 msec. (0.05 msec. incremental)	Standard: 0.1 - 500.0 msec (0.1 msec.incremental) - Switch to: 0.05 - 50.00 msec. (0.05 msec. incremental)
Output mode cw	0.01 - 100.00 sec. (0.01 sec. incremental) - 1 - 10000 sec. (1 sec. incremental)	0.01 - 100.00 sec. (0.01 sec. incremental) - 1 - 10000 sec. (1 sec. incremental)	0.01 - 100.00 sec. (0.01 sec. incremental) - 1 - 10000 sec. (1 sec. incremental)
Pulse repetition rate	1 - 5000 pps	1 - 5000 pps	1 - 5000 pps
Modulation	1 - 5000 Hz (sine wave, triangle wave, rectangular wave)	1 - 5000 Hz (sine wave, triangle wave, rectangular wave)	1 - 5000 Hz (sine wave, triangle wave, rectangular wave)
Wavelength	1070 - 1080 nm	1070 - 1080 nm	1070 - 1080 nm
Positioning guide light	Built-in red-colored visual laser (Class 2M)	Built-in red-colored visual laser (Class 2M)	Built-in red-colored visual laser (Class 2M)
Output stability	+/- 2% or below @maximum rated output	+/- 2% or below @maximum rated output	+/- 2% or below @maximum rated output
Optics	Optical fiber / Dual time sharing (optional)	Optical fiber / Dual time sharing (optional)	Optical fiber / Dual time sharing (optional)
Delivery fibers	200 or 300 micron fiber cores. Connectors QBH both input and output side. Standard lengths 10 and 30 meters. Other fiber core diameters, connector types and fiber lengths available upon request	200 or 300 micron fiber cores. Connectors QBH both input and output side. Standard lengths 10 and 30 meters. Other fiber core diameters, connector types and fiber lengths available upon request	200 or 300 micron fiber cores. Connectors QBH both input and output side. Standard lengths 10 and 30 meters. Other fiber core diameters, connector types and fiber lengths available upon request
Number of schedules	256	256	256
Measurement	Measure and display power (W)	Measure and display power (W)	Measure and display power (W)
Total counter	9 digits	9 digits	9 digits
Ld time counter	7 digits	7 digits	7 digits
Process time counter	7 digits	7 digits	7 digits
Power consumption (including cooling power consumption (14.7 kw))	Max. 24.7 kW	Max. 29.7 kW	Max. 30.7 kW
Cooling	Water cooled	Water cooled	Water cooled
Pump source	Laser Diode	Laser Diode	Laser Diode
Operating temperature	10 - 40 °C	10 - 40 °C	10 - 40 °C
Weight (including control unit)	720 kg	760 kg	790 kg
Dimensions HxWxD	1775 mm x 2050 mm x 1081 mm	1775 mm x 2050 mm x 1081 mm	1775 mm x 2050 mm x 1081 mm

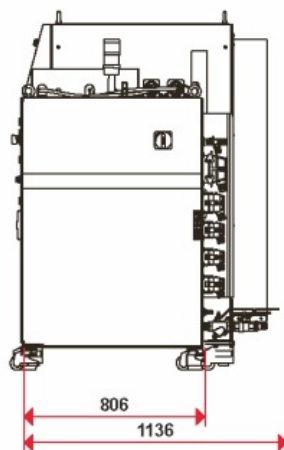
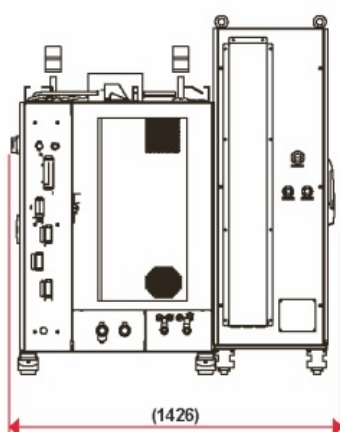
Specifications ML-69B Series - 2000 W - 5000 W Fiber Laser Welder 2/2

Model	ML-6950 A
Maximum rated output	5000 W
Maximum peak power	5000 W
Output mode repeat	Standard: 0.1 - 500.0 msec (0.1 msec.incremental) - Switch to: 0.05 - 50.00 msec. (0.05 msec. incremental)
Output mode cw	0.01 - 100.00 sec. (0.01 sec. incremental) - 1 - 10000 sec. (1 sec. incremental)
Pulse repetition rate	1 - 5000 pps
Modulation	1 - 5000 Hz (sine wave, triangle wave, rectangular wave)
Wavelength	1070 - 1080 nm
Positioning guide light	Built-in red-colored visual laser (Class 2M)
Output stability	+/- 2% or below @maximum rated output
Optics	Optical fiber / Dual time sharing (optional)
Delivery fibers	200 or 300 micron fiber cores. Connectors QBH both input and output side. Standard lengths 10 and 30 meters. Other fiber core diameters, connector types and fiber lengths available upon request
Number of schedules	256
Measurement	Measure and display power (W)
Total counter	9 digits
Ld time counter	7 digits
Process time counter	
Power consumption (including cooling power consumption (14.7 kw))	Max. 44.7 kW Cooling
Cooling	Water cooled
Pump source	Laser Diode
Operating temperature	10 - 40 °C
Weight (including control unit)	900 kg
Dimensions HxWxD	1775 mm x 2050 mm x 1081 mm

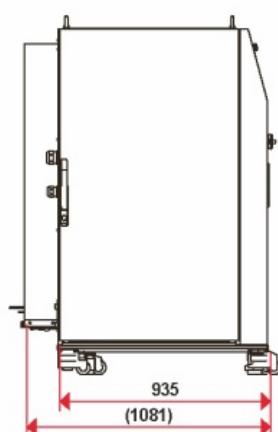
Drawings ML-69B Series - 2000 W - 5000 W Fiber Laser Welder



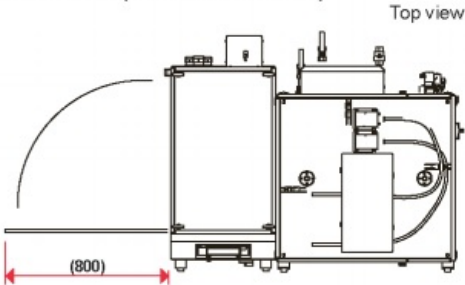
Rear view



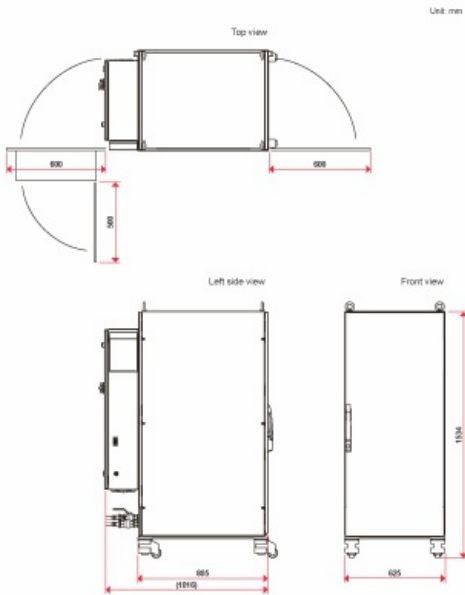
Left side
view



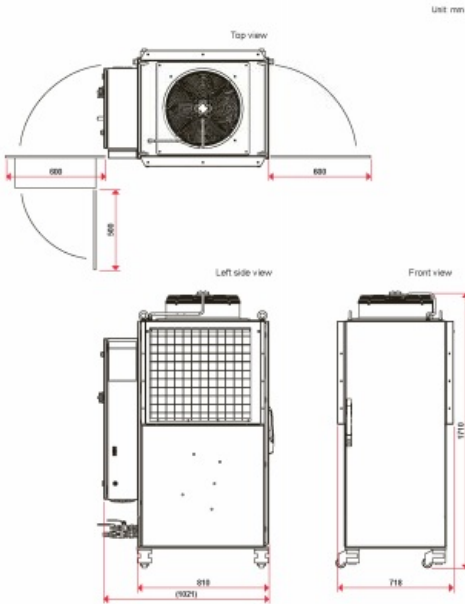
Main unit (1 to 2 deliveries)



Chiller cooler (LC 170.01-W.3.5/6)



Chiller cooler (LC 170.01-A.3.5/6)



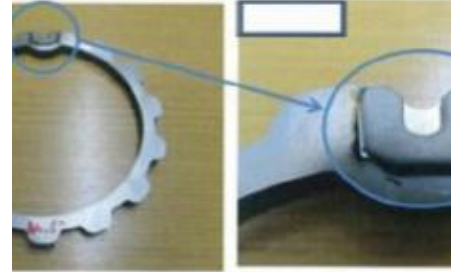
Product applications ML-69B Series - 2000 W - 5000 W Fiber Laser Welder



Fiber laser welding of stainless steel



Fiber laser welding of gear parts



Turbocharger components

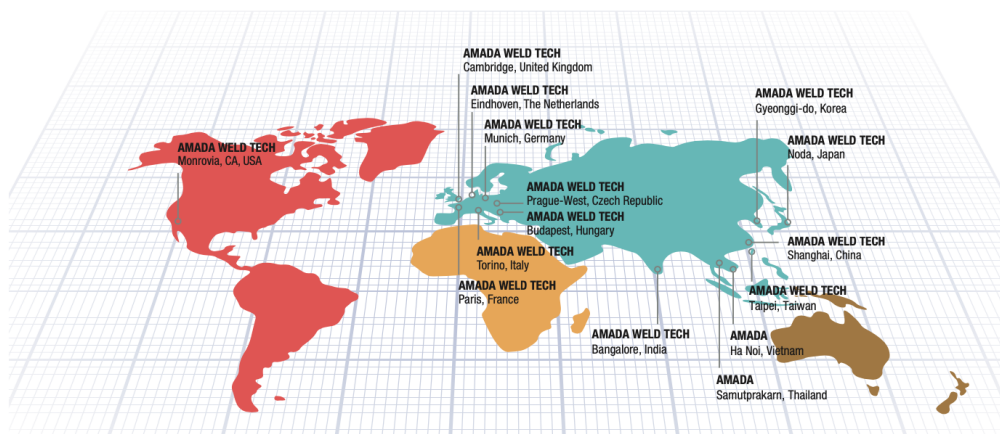
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