



ML-69 B Series

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High Power Fiber Laser Welders

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.

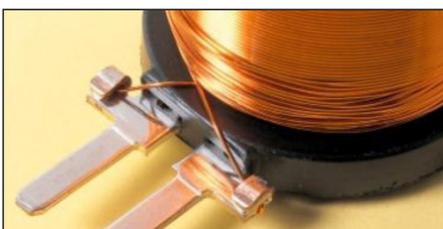
The ML-69 B Series have the advantage of excellent laser oscillation efficiency, energy saving and low cost of ownership, resulting in contributing to environmentally-friendly manufacturing. The integrated power measurement and active regulation provides exceptional stability of the pulse energy (typical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

KEY FEATURES

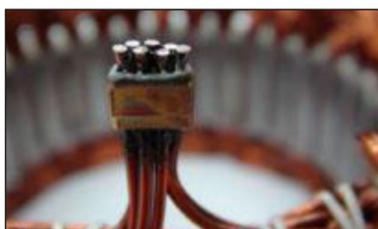
- Fiber Laser Welders from 2 kW – 5 kW
- Optional two-way time-share contributes to improvement in productivity
- Enables the use of accurate 200 micron fiber cores to achieve a high energy concentration for welding difficult metals at high speed
- High-efficiency fiber laser saves power consumption
- 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

TYPICAL APPLICATIONS

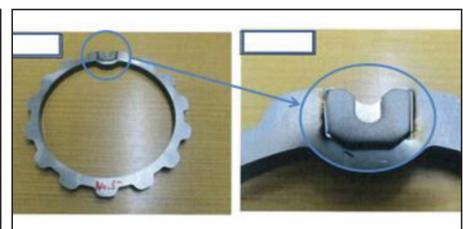
The ML-69 B Series performs high-speed CW welding and welding of precision metal plates. Typical applications are welding of electronic components, automotive parts, mechanical parts, plastic parts, medical equipment and precision sheet metals; sealing of minute parts; fine spot welding; high-speed seam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



Fiber laser welding of stainless steel



Fiber laser welding of gear parts

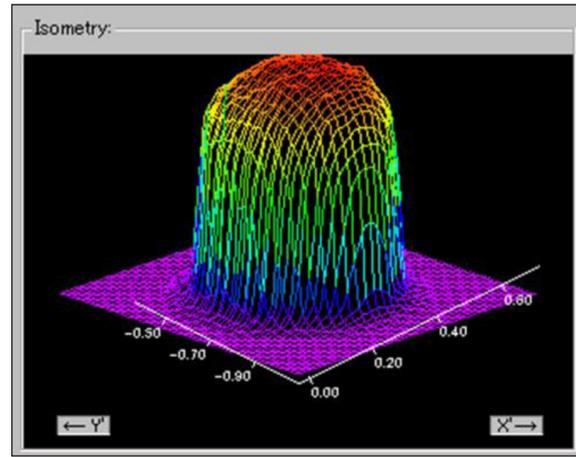


Turbocharger components



ML-69 B SERIES BEAM QUALITY

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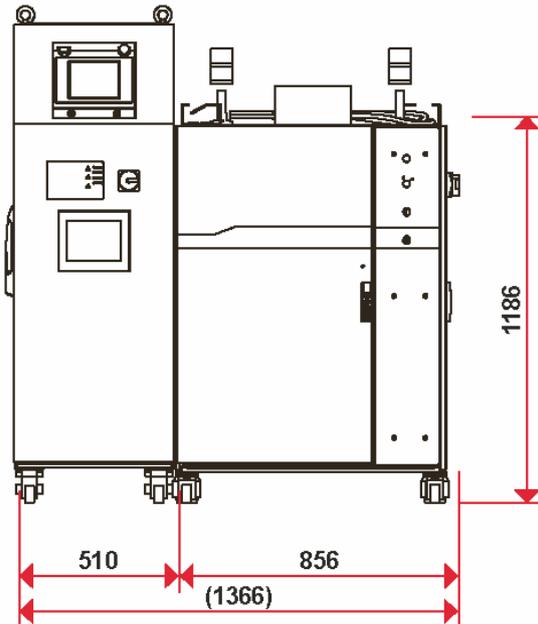
TECHNICAL SPECIFICATIONS

MODEL	ML-6920 A	ML-6930 A	ML-6940 A	ML-6950 A
Maximum rated output	2000 W	3000 W	4000 W	5000 W
Maximum peak power	2000 W	3000 W	4000 W	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 schedule	256			
Measurement	Measure and display power (W)			
Total counter	9 digits			
Ld time counter	7 digits			
Process time counter	7 digits			
Power consumption (including cooling power consumption (14.7 Kw))	Max. 24.7 kW	Max. 29.7 kW	Max. 30.7 kW	Max. 44.7 kW Cooling
Cooling	Water cooled			
Pump source	Laser Diode			
Operating temperature	10 - 40 °C			

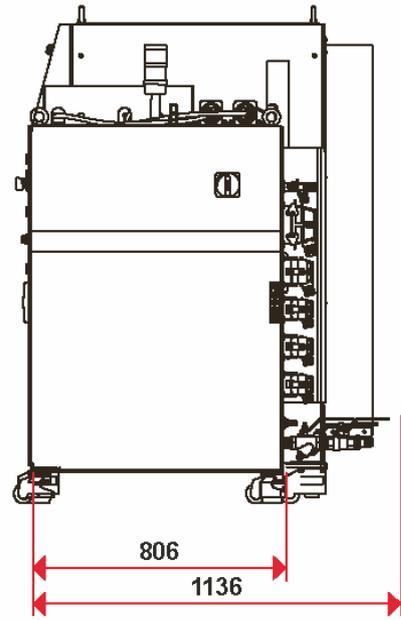
WEIGHT & DIMENSIONS

Weight (including control unit)	720 kg	760 kg	790 kg	900 kg
Dimensions HxWxD	1775 mm x 2050 mm x 1081 mm			

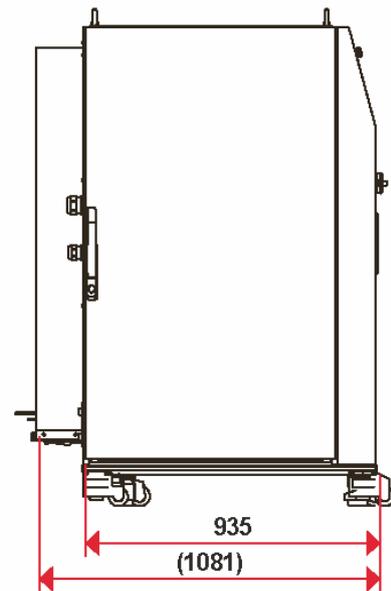
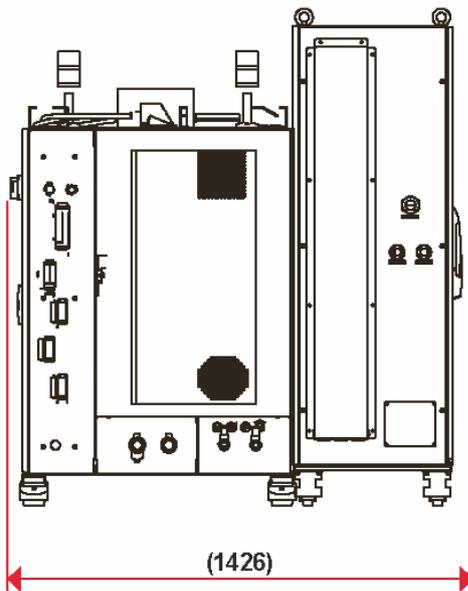
DRAWINGS



Rear view

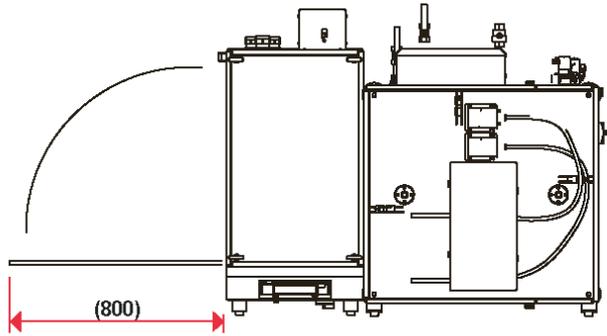


Left side view



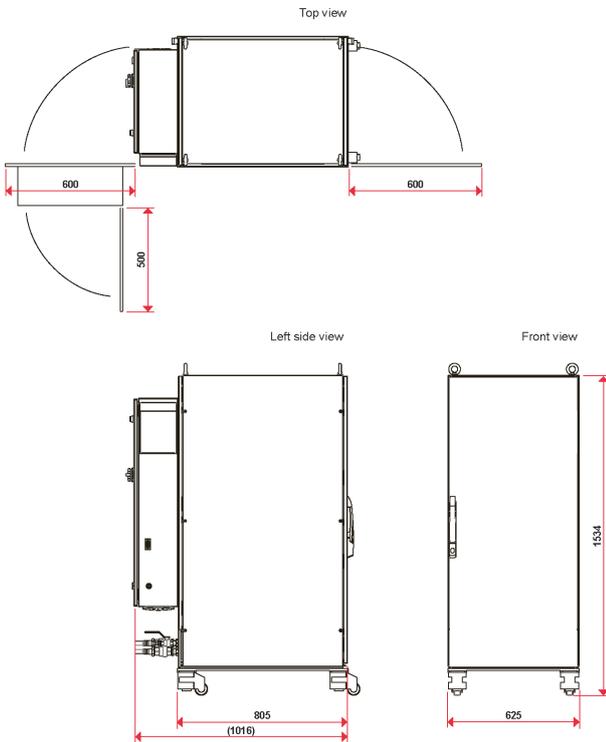
Main unit (1 to 2 deliveries)

Top view



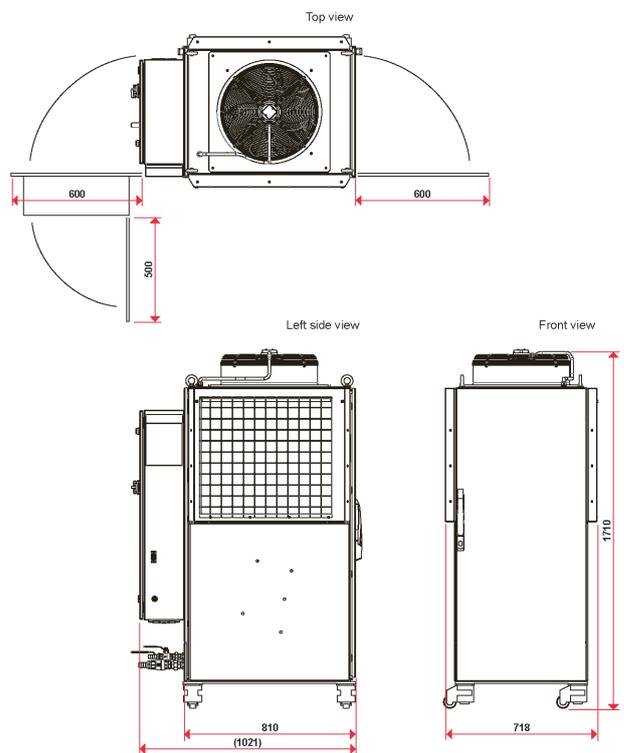
Chiller cooler (LC 170.01-W.3.5/6)

Unit: mm



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

Unit: mm



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