

■ 2kW - 5kW Fiber Laser Welder



ML-6900 Series

**High-power fiber laser welder
with a maximum output of 5kW!**

High power laser enables welding of even thick plates at a high speed and saving running costs at the same time.

Feature

More powerful version of the existing Miyachi fiber laser welders is now released. The new ML-6900A series provide the output power of up to 5kW!

High-speed CW welding becomes much faster than that by the 1kW model. It is also capable of welding thick plates. The ML-6900A series have the advantage of excellent laser oscillation efficiency, energy saving and low cost, resulting in contributing to environmentally-friendly manufacturing.

Features

- 5kW fiber laser oscillation. High-speed welding. Welding of thick plates.
- Optional two time sharing feature contributes to improvement in productivity.
- High-efficiency fiber laser saves power consumption.
- Easy operation with a touch screen.
- Program pulse shaping, modulation control and other settings and monitor operation status without a PC.
- Display power monitor, error details, status and IO monitoring on a built-in screen.
- Safety shutter (by beam switch method) as standard equipment.
- Monitor reflected light from a workpiece.
- Long-lasting laser diode provides high reliability and reduces maintenance cost.

Standard Features

Waveform control	☐
Power monitor	☐
Color LCD touch panel	☐
External communications	☐
Fade-in/ Fade-out	☐

Applications

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.

Specifications

Model		ML-6920B/BS	ML-6930B/BS	ML-6940B/BS	ML-6950B
Maximum average power (oscillator output)		2000W	3000W	4000W	5000W
Maximum peak power (oscillator output)		2000W	3000W	4000W	5000W
Output control	REPEAT mode	Standard: 0.1 to 500.0 ms (0.1 ms step)			
		Setting switching: 0.05 to 50.00 ms (0.05 ms step)			
	CW mode	Standard: 0.1 to 1000.0 s (0.1 s step)			
		Setting switching: 0.001 to 10.000 s (0.001 s step) 0.01 to 100.00 s (0.01 s step) 1 to 10000 s (1 s step)			
Repetition rate		1 to 5000pps			
Modulation function		1 to 5000Hz (Sine wave, triangle wave, rectangular wave)			
Safety mechanism (Beam terminator)		Check with sensor			
Oscillation wavelength		Fundamental wavelength			
Positioning guide beam		Red visible laser built-in, class 2M			
Output stability *1		±2% or less @maximum rated output			
Fiber Optics delivery		Optical fiber / Up to 4 deliveries of laser output at timesharing. (Option)			Optical fiber / Up to 2 deliveries of laser output at timesharing. (Option)
Transmission fiber		ML-6900B type : Φ0.15mm、0.2mm ML-6900BS type : Φ0.1mm			
No. of programmable schedules		256			
Measurement		Measure and display power (W)			
Counter	Total counter	9 digits			

	LD time	7 digits			
	Process time	7 digits			
Power requirements		Three phase, 400VAC +/-10%, 50/60Hz			
Power consumption (Incl. cooler's power consumption (14.7kW))		Max. 23.4kW	Max. 29.7kW	Max. 30.7kW	Max. 44.7kW
External datacom		RS-485			
Heat exchange system		Water - Water			
Ambient temperature		10 to 40°C			
Dimensions	Main unit	Single delivery	856(W) X 806(D) X 1186(H) mm		1480(W) X 815(D) X 1520(H) mm
		2-timesharing			
	3-timesharing	1105(W) X 806(D) X 1186(H) mm			
	4-timesharing				
	Control unit	510(W) X 935(D) X 1520(H) mm			
Weight(Incl. control unit) *2		510~620kg	530~640kg	550~660kg	900kg

*1: When the laser power supply cooling water is constant, eight hours

*2: Depends on the branch

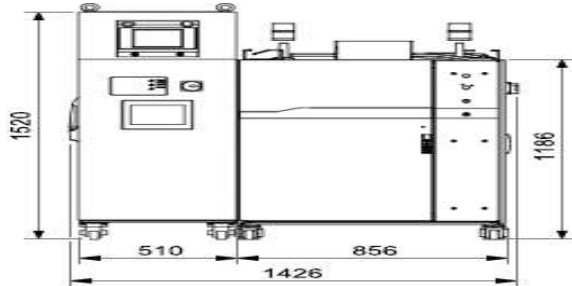
*Specifications subject to change without notice.

External View

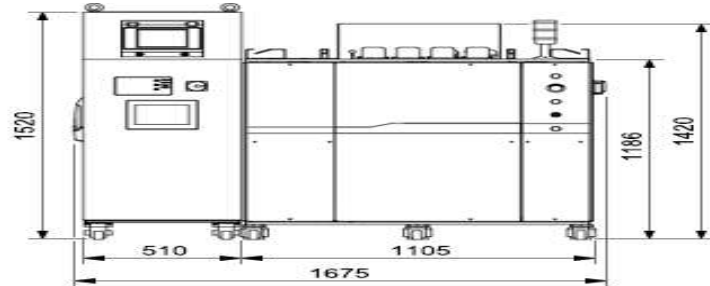
■ Dimensions in mm

■ ML-6900B/BS Series

Front view
1 to 2 deliveries

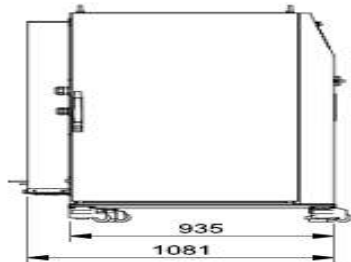


Front view
3 to 4 deliveries

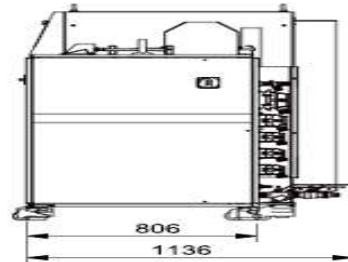


■ ML-6900B/BS Series

Left side view

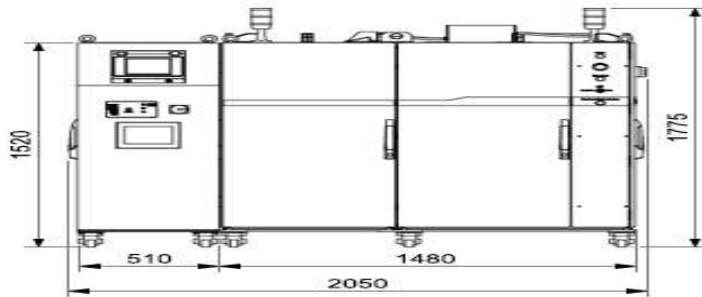


Right side view

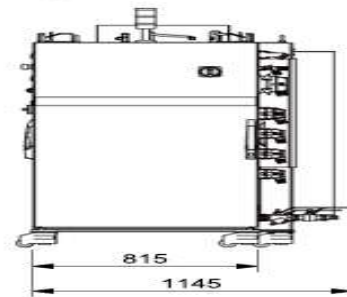


■ ML-6950B

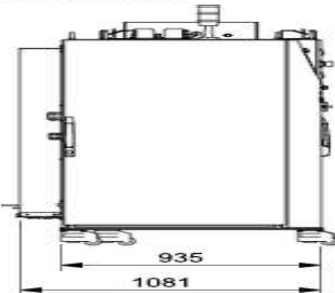
Front view



Right side view

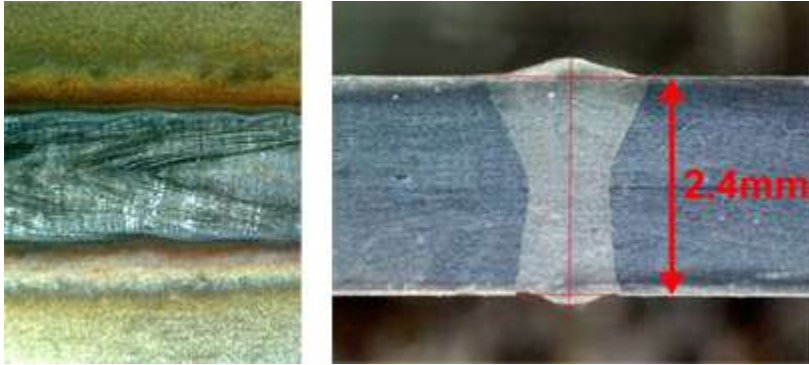


Left side view



Sample

Seam welding of stainless steel (2kW, t=2.4mm, 30mm/sec.)



Seam welding of gear parts (2.4kW, DOP: 3.6mm)

