Technical Comparison and Performance Data

REDSABRE

Compact Fiber Laser Designs with Integrated Wire Feeding

Laser Parameters	1500	2000	2000X	3000X
Processes	Weld/Cut/Weld Cleaning/ De-scale(De-Rust)	Weld/Cut/Weld Cleaning/ De-scale(De-Rust)	Weld/Cut/Weld Cleaning/ De-scale(De-Rust)	Weld/Cut/Weld Cleaning/ De-scale(De-Rust)
Laser Type	Fiber	Fiber	Fiber	Fiber
Laser Class	4	4	4	4
Wave Length	1070 ± 5nm	1070 ± 5nm	1070 ±10nm	1070 ±10nm
No. of Beams	1	1	1	1
Beam Type	Fixed or Modulating (Scanning)	Fixed or Modulating (Scanning)	Fixed or Modulating (Scanning)	Fixed or Modulating (Scanning)
Output Wattage	1500 W	2000 W	2000 W	3000 W
Energy Output Stability	<2%	≤2%	≤5%	≤5%
Input Wattage	3500 W	4500 W	7700 W	11,900 W
Input Voltage	240V 1 Phase (50/60Hz)	240V 1 Phase (50/60Hz)	240V 1 Phase (50/60Hz)	240/480V 3 Phase or 240V 1 Phase (50/60 Hz) (separate voltage transformer required, included)
Minimum Breaker	20A	25A	30A	TBA/TBA
Cooling Type	Air-Cooled	Air-Cooled	Refrigerated	Refrigerated
Fiber Cable Length	10 m (approx. 32 Ft.)	10 m (approx. 32 Ft.)	10 m (approx. 32 Ft.)	10 m (approx. 32 Ft.)
Fiber Connector Type	QBH	QBH	QBH	QBH
Fiber Core Diameter	25 µm	25 µm	50 µm	50 µm
Sustained Operating Time (Rating)	6 Hour	6 Hour	12 Hour	12 Hour
Max Operating Freq.	50 KHz	50 KHz	10 KHz	10 KHz
Welding Scan Width	6mm Max.	6mm Max	6mm Max	6mm Max
Weld Cleaning Scan Width	8mm Max.	8mm Max	8mm Max	8mm Max
Beam Quality (used for BPP)	$M^2 \leq 1.2$	$M^2 \leq 1.8$	$M^2 \leq 1.8$	$M^2 \leq 3$
Operating Temperature	10-45°C (50-113°F)	10-45°C (50-113°F)	5-45°C (41-113°F)	5-45°C (41-113°F)
Preferred/Max Operating Humidity	<70% / <95%	<70% / <95%	<70% / <95%	<70% / <95%
User Interface	Digital Touch Screen with Umbilical	Digital Touch Screen with Umbilical	Digital Touch Screen	Digital Touch Screen
Maximum Program Storage	10 Programs	10 Programs	10 Programs	10 Programs
Weight	116 lbs.	127 lbs.	295 lbs.	333 lbs. (transformer weight not included)
Dimensions (Laser Cabinet base)	24"Lx24"Hx10"W	24"Lx24"Hx10"W	TBA	TBA
Additional Width of Cable Holder	4"	4"	TBA	TBA
Collimating Lens	D16x5mm (F60)	D16x5mm (F60)	D16x5mm (F60)	D16x5mm (F60)
Collimating Lens Type	Quartz	Quartz	Quartz	Quartz
Collimating Lens Edge Thickness	5mm	5mm	5mm	5mm
Focus Mirror (Reflector)	30x14mm (T2)	30x14mm (T2)	30x14mm (T2)	30x14mm (T2)
Focus Mirror Type	Quartz	Quartz	Quartz	Quartz
Focus Mirror Thickness	2mm	2mm	2mm	2mm
Focus Lens (Standard)	D18x2mm	D18x2mm	D18x2mm	D18x2mm
Focus Lens Type	Quartz	Quartz	Quartz	Quartz
Focal Length (Welding)	150mm	150mm	150mm	150mm
Synchronized Wire Feeder Type	Standard Single Wire /Optional Double Wire	Standard Single Wire /Optional Double Wire	Standard Single Wire /Optional Double Wire	Standard Single Wire /Optional Double Wire
Std. Wire Feeder Wire Diameter	.8-1.2mm (.030"-.045")	.8-1.2mm (.030"-.045")	.8-1.2mm (.030"-.045")	.8-1.2mm (.030"-.045")
Std. Wire Feeder Speed	15-600 cm/min (6-237 ipm)	15-600cm/min (6-237 ipm)	15-600 cm/min (6-237 ipm)	15-600 cm/min (6-237 ipm)
Std. Wire Feeder User Interface	Digital Touch Screen	Digital Touch Screen	Digital Touch Screen	Digital Touch Screen
Std. Wire Feeder Weight	30 lbs.	30 lbs.	30 lbs.	30 lbs.
Std. Wire Feeder Dimensions	22"Lx14"Hx10"W	22"Lx14"Hx10"W	22"Lx14"Hx10"W	22"Lx14"Hx10"W
Std. Wire Feeder Special Function	Add/retract wire after/before weld	Add/retract wire after/before weld	Add/retract wire after/before weld	Add/retract wire after/before weld
WELDING AND CUTTING PERFORMANCE *				
*For best results in daily usage, figure at 80% of maximum stated value. Maximum stated capacity is subject to actual conditions, maintenance, technique and prep. Inch values are rounded standard decimal values from metric conversion. Welding and cutting results are affected by collimation (calibration/focus of the beam) cleanliness and condition of focus lens and protection lens. Collimate the beam and replace protective lenses regularly for consistent results.				
Gap Fill (Root) w/o Wire	1.0mm (.040")	1.0mm (.040")	1.0mm (.040")	1.0mm (.040")
Gap Fill (Root) Single Wire Feeder	1.6mm (.062")	1.6mm (.062")	1.6mm (.062")	1.6mm (.062")
Gap Fill (Root) Double Wire Feeder	2.0mm (.080")	2.0mm (.080")	2.0mm (.080")	2.0mm (.080")
Single Side Weld Steel/S.S. Max.	4.0mm (.160")	6.0mm (.240")	6.0mm (.240")	8.0mm (.280")
Single Side Weld Alum. Max.	3.5mm (.140")	4.5mm (.180")	4.5mm (.180")	6.5mm (.250")
Single Side Weld Copper Max.	2.0mm (.080")	3.0mm (.120")	3.0mm (.120")	4.0mm (.160")
Steel Cut Thickness Max.	5.0mm (.200")	6.0mm (.240")	6.0mm (.240")	7.0mm (.280")
Aluminum Cut Thickness Max.	4.0mm (.160")	5.0mm (.200")	5.0mm (.200")	6.5mm (.260")

CLASS 4 LASERS WELD CLEAN

EVERLAST LASER WELDING SYSTEMS