

PowerLine L100 SHG/L400

Laser systems for high-speed material processing and PV applications

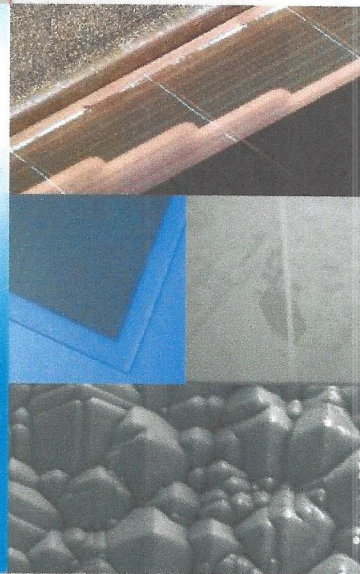
The PowerLine L series was specifically designed for material processing applications requiring high average power and high pulse energy. Examples are thin film removal on glass and flexible materials, silicon processing, surface treatment. The Nd:YAG lasers are efficiently diode pumped and designed for industrially reliable 24/7 operation. The laser sources are available at 1064 nm (PowerLine L 400) and 532 nm (PowerLine L 100 SHG). Standard configuration includes a fiber delivery to the processing head. The 532 nm uses a high performance SHG assembly with intracavity harmonic generator crystal for highly efficient frequency conversion.

1000 Times more powerful than a cw laser

The unique principle of q-switching make peak pulse performances possible that are a 1000 times higher than the cw laser power. This process is repeated with frequencies up to 50,000 Hz. The pulse lengths are in the range of 50 to 300 ns.

High performance scan head

The PowerLine L standard configuration includes a fiber outcoupling and scan head assembly supporting scan speeds of up to 10 m/sec depending on focal length.



The scan heads offered are high performance precision devices supporting very high accuracies. The safety shutter and safety circuit incorporated into the laser head and supply unit are further simplifying integration, meeting EN ISO 13849-1 standard.

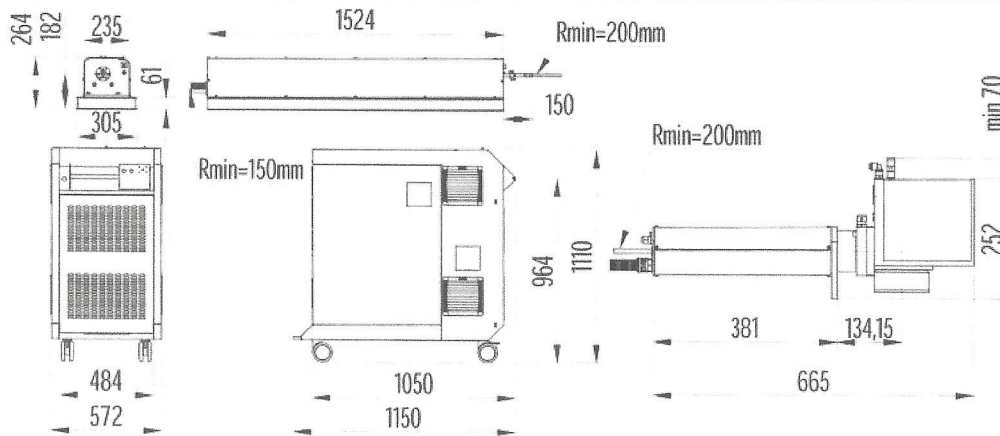
Features

- high ablation rates
- high performance scan heads
- fiber beam delivery - round, square and rectangular (patent pending)
- top hat beam profiles
- high peak power / short pulse width
- excellent pulse-to-pulse stability
- easy integration / ROFIN control unit (RCU)
- long-term stable 24/7 industrial operation

Within the ROFIN group, ROFIN-BAASEL Lasertech is responsible for the laser micro market. The wide range of products includes laser systems for high precision welding, cutting, structuring and drilling. The complete product development is carried out in-house in direct cooperation with customers. Numerous innovations worldwide and more than 33,000 lasers and laser systems in use all over the world indicate the creative energy and product quality of the ROFIN group for more than 35 years.

FOCUS ON FINE SOLUTIONS

PowerLine L100 SHG/L400



Specifications

Laser		PowerLine L 100 SHG	PowerLine L 400
Beam characteristics			
Wavelength	nm	532	1064
Max. output power	W	100	325
Pulse frequency	kHz	6 - 50	6 - 50 kHz and cw
Pulse width (nominal)	ns	100 at 10 kHz	70 at 10 kHz
Pulse peak power	kW	> 80 at 10 kHz	> 420 at 10 kHz
Pulse energy	mJ	10 at 10 kHz	30 at 10 kHz
Beam delivery		fiber optics and scanner head	
Beam quality		multimode	multimode
Beam profile		flat top	flat top
Pulse to pulse stability		< 3 % rms up to 30 kHz	< 3 % rms up to 15 kHz
Utility			
Electrical		400 V - 3P + N + PE 16 A - 50/60 Hz	400 V - 3P + N + PE 32 A - 50 / 60 H
Power consumption	kW	3	4
Cooling		water / water	water / water
Measures			
Weight laser source	kg	107	107
Weight supply unit		150	150
Dimensions laser source w x h x d	mm	1530 x 264 x 305	1530 x 264 x 305
Dimensions supply unit w x h x d	mm	572 x 1110 x 1150	572 x 1110 x 1150
Options			
Scanner system		RS 20	RS 25
F-Theta lens		f = 255 mm	f = 160 or 254 mm
Spot shape		round, square and rectangular (patent pending) beam shape options	

Selected options are detailed technical specifications on request. All data are subject to change without further notice. © ROFIN-BAASEL LASERTECHNIK GMBH & CO. KG

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