

# 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, material ablation and 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 allows peak pulse performance 1000 times higher than using 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 unit and scan head system. The high-precision scan head achieves excellent accuracies and processing speeds up to 12 m/sec depending on focal length.

The integrated safety circuit and shutter as well as the supply unit make integration easy - meeting EN ISO 13849-1 standard.

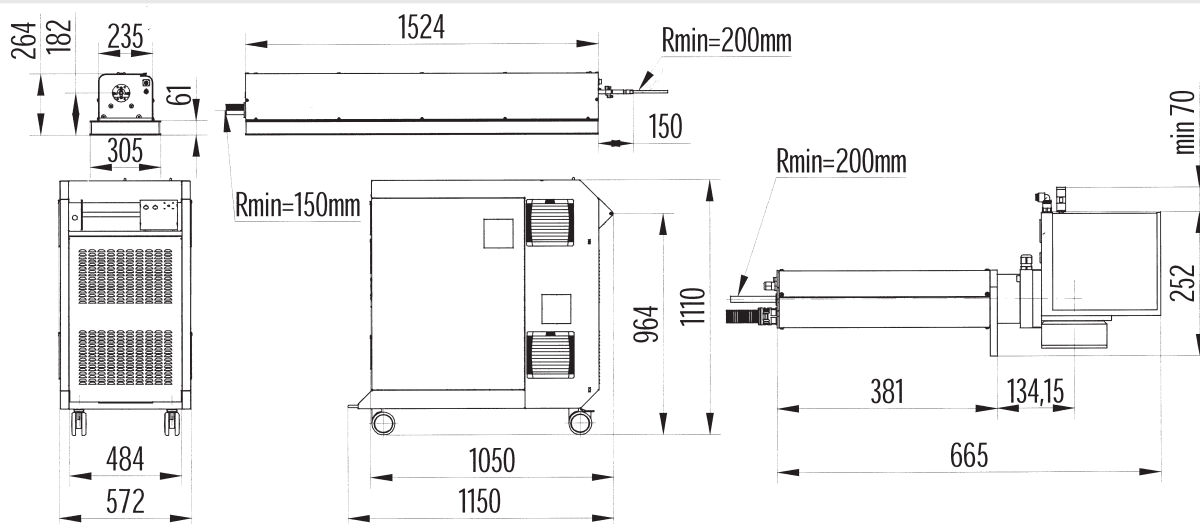


### Features

- high-speed processing
- high precision scanner system
- fiber beam delivery
- round, square and rectangular spot cross sections
- top hat beam profile
- 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 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.*

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## Specifications

Laser		PowerLine L 100 SHG	PowerLine L 400
<b>Beam characteristics</b>			
Wavelength	nm	532	1064
Max. output power	W	100	325
Pulse frequency	kHz	6 - 50	6 - 50
Pulse width (nominal)	ns	120 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		top hat	top hat
Pulse to pulse stability		< 2 % rms up to 30 kHz	< 3 % rms up to 15 kHz
<b>Utility</b>			
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
<b>Measures</b>			
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
<b>Options</b>			
Scanner system		RS 20	RS 25 / RS 30
F-Theta lens		f = 255 mm	f = 160 or 254 mm
Spot shape		round, square and rectangular	

Selected options and detailed technical specifications on request. All data are subject to change without further notice. © ROFIN-BAASEL/POWERLINE/0713/E/10/07/0/ROB/ORTIMANN-LUX/04R/CL/200

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