

BLADE™ RF

HIGH PEAK POWER
SEALED-OFF LASERS



RF Excited CO₂ LASERS
Power from 150W to 300W

- High peak power Sealed-off technology
- Radio Frequency excited
- Extremely compact & easy to integrate
- Special RF 177G: 150W @9.3μm
- Integrated RF power supply
- Naked version in option for optimized custom layout

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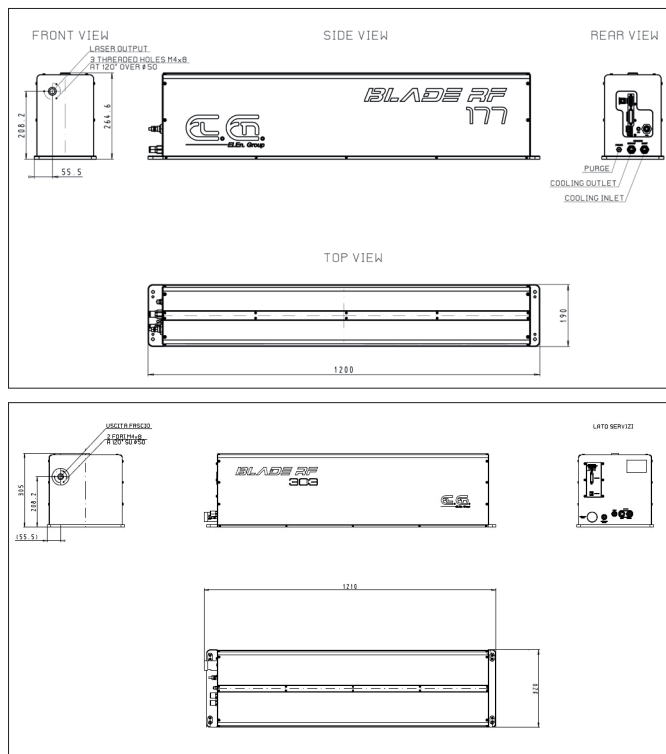
With more than three decades experience in CO₂ laser sources manufacturing, EL.EN. has installed worldwide over 2500 industrial solutions.

The exceptional characteristics of the new SEALED-OFF technology allow to obtain excellent performances in this power range laser applications.

The extreme compactness of the BLADE RF CO₂ SEALED-OFF laser sources makes them one of the easiest to integrate.

MAIN APPLICATIONS

- Galvo scanners applications
- Plastics and leather cutting
- Thin glass film - display - LCD processing



Systems Specifications

Model	RF 177	RF 177 G	RF 303
Rated power (W)	≥150	≥170	≥300
Effective peak power ⁽¹⁾ (W)	600	700	1100
Power stability (long term)	± 5%	± 5%	± 5%
Wavelength (μm)	10.6 ± 0.4	9.3 ± 0.2	10.6 ± 0.4
Polarization	linear vertical	linear vertical	linear vertical
Beam diameter (1/e ² at the exit) (mm)	9.5 ± 0.5	9.5 ± 0.5	8.0 ± 0.5
Beam divergence (full angle) (mrad)	3.0 ± 0.3	3.0 ± 0.3	2.0 ± 0.2
Maximum pulsing frequency (kHz)	100	100	100
Pulse width range (μs)	2 ÷ 1000	2 ÷ 1000	2 ÷ 150
Pulse Rise / Fall time (μs)	< 50	< 50	< 50
Mode quality (M ²)	< 1.15	< 1.15	< 1.20
Beam ellipticity	1.15:1	1.15:1	1.20:1
Environmental temperature range (°C)	5° ÷ 35°	5° ÷ 35°	5° ÷ 35°
Maximum humidity	Non condensing at inlet water cooling temperature		

Electrical Power Requirements

Input voltage (V _{DC})	48 ± 1	48 ± 1	48 ± 1
Max current (A)	60	60	115

Coolant

Heat dissipation (W)	3000	3000	5500
Coolant temperature (°C)	20° ± 0,5°	20° ± 0,5°	20° ± 0,5°
Max water cooling input pressure (bar)	4	4	≤ 4
Water cooling flow rate (l/min)	7± 0.5	7± 0.5	10,5± 0,5

Dimensions/Weight

Dimensions (LxWxH) (mm)	1200x190x264.6	1200x190x264.6	1210x320x305
RF Power supply dimensions (LxWxH) (mm)	integrated		
Weight (kg)	37.5	37.5	65

1 - At 10% duty cycle and 1kHz

NOTE: Aiming to product improvement El.En. SpA reserves the right to change specifications without notice. Purchaser acknowledges that the products must comply with applicable regulations before they can be resold to customers. El.En. lasers are produced under a quality assurance system certified according to ISO 9001.



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