



INDUSTRIAL

OEM/SCX/SR

Sealed CO<sub>2</sub> laser sources



## Who we are:

At Luxinar we have a singular focus:

Developing laser technology to enhance our world.

Like a laser that channels light into a single, powerful beam, we focus on improving the lives of our customers. We have a single manufacturing location. We have a single point of contact at our regional offices which are located in the same time zone and speak the same language as our customers. These allow us to create solutions to meet every single challenge.

Luxinar has been at the forefront of laser technology for over 20 years and is a leading manufacturer of sealed carbon dioxide (CO<sub>2</sub>) laser sources up to 1000W. To date, we have an installed base of over 18000 lasers worldwide in industrial applications environments.

Luxinar – INGENUITY AMPLIFIED



## At your service:

### Technical support

The Luxinar aftersales team is comprised of technical specialists, passionate and knowledgeable about sealed laser sources. Each team member has an in-depth understanding of laser technology, our products, as well as a wealth of experience of lasers working in a multitude of industries and environments.

Our dedicated, highly skilled and experienced aftersales technicians located in Europe, China, Korea and the USA are on hand to provide the following support:

- Troubleshooting
- Spare parts identification
- Product documentation
- Integration support
- System maintenance







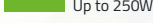
# CO<sub>2</sub> industrial lasers

Our industrially-proven sealed laser sources are based on a diffusion-cooled slab principle that gives a high-quality round and symmetrical beam.

Customers are attracted to our product design because the running, maintenance and service costs of our laser sources are minimal. In addition, there is no need for gas recirculation equipment such as vacuum pumps or pressure control systems and no requirement for gas refill during the operational lifetime of the laser.

## At a glance

Our versatile portfolio caters for many different configurations, allowing us to provide laser solutions tailored to customers' specific applications. Depending on the requirement, system performance can also be configured to suit particular applications according to a list of options available.

Product	IP rating	Power range	Ideal for...
OEM series	IP56 (IP66 for 1000W)	 Up to 1000W	Industrial processing environments, mid-high power
SCX 35	IP56	 Up to 350W	Industrial processing environments, low power
SR series	IP66	 Up to 250W	Harsh environments; dust, heat, water

All products are capable of:

**Cutting, drilling, engraving, marking, perforating, scribing, welding**

And they can be used to process a variety of materials, including:

**Paper, rubber, plastics, acrylic, glass, textiles, wood, ceramics, thin sheet metal, optical films**



## Applications laboratories:

Could a laser be used to improve your manufacturing process? We can help you to find out by testing samples of your material or product.

Our applications lab facilities are open to both new and existing customers and OEMs. Our laboratories are well equipped to carry out a range of processes including cutting, marking, engraving, drilling, scribing, ablation and more.

We offer rapid sample turnaround times, detailed application reports, and complimentary advice from our experienced applications engineers. Whatever your process, we can help you to determine the best laser for your application; contact us to find out more.

We carry out application tests using your actual product samples. Guided by your objectives, we will try to replicate the conditions of your application as closely as possible in the lab. Upon completion, you will receive a detailed report outlining our findings, along with some laser-processed samples for your evaluation. Most application tests can be completed within 10 working days.

“Developing laser technology to enhance our world”

## SR series – power range of 60-250W



- IP66 rating
- Wavelengths 10.6µm, 10.25µm, 9.3µm
- Integrated & field replaceable RF power supplies
- Compact, lightweight laser source
- Simple diagnostics
- Minimum shipment power 20% higher than rated power

The SR series laser, with output powers of up to 250W, has an integrated RF power supply design and is hermetically sealed, making it ideal for the harshest of industrial environments (dust, heat, water spray). The simple control interface and compact mechanical design of the unit allow easy integration into laser-based processing machines used for cutting, marking, welding and drilling, among others. Throughput, economy, flexibility and reliability are the main features associated with the SR series of CO<sub>2</sub> laser sources.

Most common industries for SR series:

**Aerospace, ceramic, electronics, food, leather, packaging and labelling, paper, plastics, security, textiles, wood**

## Specifications of SR 08s

	10.6	9.3
Power range	5-80W	5-60W
Minimum shipment power	96W	72W
Peak laser output power	> 110W	> 80W
Duty cycle (max)	80%	80%
Wavelength	10.6µm	9.3µm
Typical stability (long term)	< ± 4.5%, < ± 7% guaranteed	
Beam diameter	< ± 1%, < ± 2% guaranteed (power feedback) *	
Polarisation	6.0 ± 0.5mm – (1/e <sup>2</sup> ) at laser output optic	
Weight	Linear (parallel to base), purity > 100:1	
Voltage	22kg (23.9kg with shutter/power feedback module)	
Peak RF input current	50VDC ± 1%	
Maximum average input current	40A	
Optical rise/fall time	32A	
Pulse width	< 100µs	
Pulse frequency	2-400µs	
	0-130kHz	

\* Power feedback turn on response is typically 300-500 milliseconds

## Specifications of SR 10i

	10.6	10.25	9.3
Power range	5-125W	5-110W	5-95W
Minimum shipment power	150W	132W	114W
Peak laser output power	> 315W	> 275W	> 240W
Duty cycle (max)	60%	60%	60%
Wavelength	10.6µm	10.25µm	9.3µm
Typical stability (long term)	< ± 4.5%, < ± 7% guaranteed		< ± 5%, < ± 8% guaranteed
Beam diameter	< ± 1%, < ± 2% guaranteed (power feedback) *		
Polarisation	6.0 ± 0.5mm – (1/e <sup>2</sup> ) at laser output optic		
Weight	Linear (parallel to base), purity > 100:1		
Voltage	22kg (23.9kg with shutter/power feedback module)		
Peak RF input current	50VDC ± 1%		
Maximum average input current	80A		
Optical rise/fall time	48A		
Pulse width	< 60µs		
Pulse frequency	2-400µs		
	0-130kHz		

\* Power feedback turn on response is typically 300-500 milliseconds

## Specifications of SR 15i

	10.6	10.25	9.3
Power range	10-175W	10-155W	5-130W
Minimum shipment power	210W	186W	156W
Peak laser output power	> 440W	> 390W	> 330W
Duty cycle (max)	60%	60%	60%
Wavelength	10.6µm	10.25µm	9.3µm
Typical stability (long term)	< ± 3%, < ± 6% guaranteed < ± 1%, < ± 2% guaranteed (power feedback) *		
Beam diameter	6.8 ± 0.5mm – (1/e <sup>2</sup> ) at laser output optic		6.0mm ± 0.5mm
Polarisation	Linear (parallel to base), purity > 100:1		
Weight	32kg (33.9kg with shutter/power feedback module)		
Voltage	50VDC ± 1%		
Peak RF input current	120A		
Maximum average input current	72A		
Optical rise/fall time	< 60µs		
Pulse width	2µs-1ms	2-400µs	2-400µs
Pulse frequency	0-130kHz		

\* Power feedback turn on response is typically 300-500 milliseconds

## Specifications of SR 15s

	10.6	9.3
Power range	10-160W	5-120W
Minimum shipment power	192W	144W
Peak laser output power	> 215W	> 160W
Duty cycle (max)	80%	80%
Wavelength	10.6µm	9.3µm
Typical stability (long term)	< ± 3%, < ± 6% guaranteed < ± 1%, < ± 2% guaranteed (power feedback) *	
Beam diameter	6.8 ± 0.5mm – (1/e <sup>2</sup> ) at laser output optic	
Polarisation	Linear (parallel to base), purity > 100:1	
Weight	32kg (33.9kg with shutter/power feedback module)	
Voltage	50VDC ± 1%	
Peak RF input current	80A	
Maximum average input current	64A	
Optical rise/fall time	< 100µs	
Pulse width	2-400µs	
Pulse frequency	0-130kHz	

\* Power feedback turn on response is typically 300-500 milliseconds

## Specifications of SR 25i

	10.6	10.25	9.3
Power range	15-250W	10-225W	10-185W
Minimum shipment power	300W	270W	222W
Peak laser output power	> 630W	> 565W	> 465W
Duty cycle (max)	60%	60%	60%
Wavelength	10.6µm	10.25µm	9.3µm
Typical stability (long term)	< ± 3%, < ± 6% guaranteed < ± 1%, < ± 2% guaranteed (power feedback) *		< ± 4%, < ± 6% guaranteed
Beam diameter	6.5 ± 0.5mm – (1/e <sup>2</sup> ) at laser output optic		6.3mm ± 0.5mm
Polarisation	Linear (parallel to base), purity > 100:1		
Weight	34kg (35.9kg with shutter/power feedback module)		
Voltage	50VDC ± 1%		
Peak RF input current	160A		
Maximum average input current	96A		
Optical rise/fall time	< 60µs		
Pulse width	2-400µs		
Pulse frequency	0-130kHz		

\* Power feedback turn on response is typically 300-500 milliseconds

# SCX 35 – power range of 315-350W

- IP56 rating
- Wavelengths 10.6µm, 10.25µm
- Separate RF power supply for flexible integration
- Minimum shipment power 20% higher than rated power

The SCX 35 laser source, with an output power of up to 350W, is designed for integration into industrial processing systems and is often used for cutting applications such as plastics and wood. It includes a separate RF power supply which enables the laser to produce short optical pulses with high peak power or quasi-CW output. Due to its lightweight and robust design, this CO<sub>2</sub> laser is ideal for robotic applications and can be integrated exceptionally well into systems with scanners or other beam guidance components.

Most common industries for SCX 35:

**Automotive, labelling, security, packaging, plastics, textile, tobacco**

## Specifications of SCX 35

	10.6	10.25
Power range	20-350W	15-315W
Minimum shipment power	420W	380W
Peak laser output power	> 880W	> 800W
Duty cycle (max)	60%	60%
Wavelength	10.6µm	10.25µm
Typical stability (long term)	< ± 5%, < ± 7% guaranteed	
Beam diameter	< ± 1%, < ± 2% guaranteed (power feedback) *	
Polarisation	7 ± 0.5mm – (1/e <sup>2</sup> ) at laser output optic	
Weight	Linear (45 degrees to base), purity > 100:1	
Voltage	63kg	
Peak RF input current	50VDC ± 1%	
Maximum average input current	240A	
Optical rise/fall time	144A	
Pulse width	< 60µs	
Pulse frequency	2-400µs	
	0-130kHz	

\* Power feedback turn on response is typically 300-500 milliseconds





## OEM series – power range of 340-1000W

- Range extended to include the 1kW OEM 100iX
- IP56 rating (IP66 rating for OEM 100iX)
- Wavelengths 10.6µm, 10.25µm, 9.3µm
- Short optical pulses with high peak power, or quasi-CW output
- Minimum shipment power 20% higher than rated power

The OEM series of CO<sub>2</sub> lasers, with output powers of up to 1kW, is a compact solution that can be easily integrated into industrial processing production lines. Most of the OEM series include an integrated RF power supply enabling the users to produce short optical pulses with high peak power or quasi-CW output. There is also the option for an absorbing thin film reflector (ATFR) to prevent back reflection issues.

OEM iX lasers use a single resonator design producing laser light with a linear polarisation. With a beam quality of  $K > 0.8$ , power and precision are defining characteristics of these lasers. Since many equipment manufacturers purchase this range to integrate into their equipment, these OEM iX laser sources are available without the laser housing, if desired.

The OEM series is recommended for processing textiles, paper, glass, wood, thin sheet metal, plastics, composite materials, etc.

Most common industries for OEM series:

**Automotive, textile, food, packaging & labelling, plastics, tobacco**

## Specifications of OEM 45iX

	10.6	10.25	9.3
Power range	25-450W	20-405W	20-340W
Minimum shipment power	540W	490W	405W
Peak laser output power	> 1135W	> 1030W	> 855W
Duty cycle (max)	55%	55%	55%
Wavelength	10.6µm	10.25µm	9.3µm
Typical stability (long term)	< ± 3%, < ± 5% guaranteed		
Beam diameter	< ± 1%, < ± 2% guaranteed (power feedback) *		
Polarisation	Linear (parallel to base), purity > 100:1		
Weight	92kg (78kg without covers)		
Voltage	50VDC ± 1%		
Peak RF input current	314A		
Maximum average input current	173A		
Optical rise/fall time	< 60µs		
Pulse width	2-400µs		
Pulse frequency	0-100kHz		

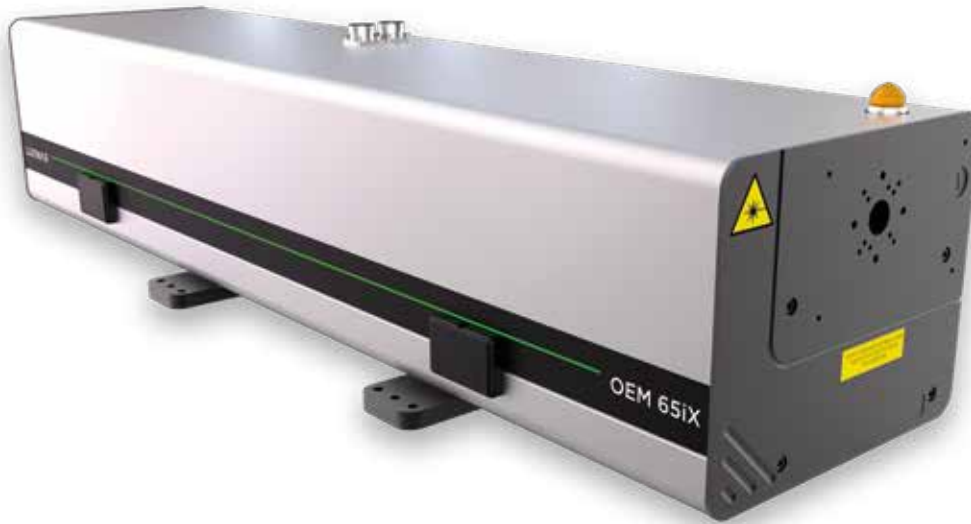
\* Power feedback turn on response is typically 300-500 milliseconds



# Specifications of OEM 65iX

	10.6	10.25
Power range	35-650W	30-585W
Minimum shipment power	780W	705W
Peak laser output power	> 1640W	> 1480W
Duty cycle (max)	60%	60%
Wavelength	10.6µm	10.25µm
Typical stability (long term)	$< \pm 4.1\%$ , $< \pm 7\%$ guaranteed $< \pm 1\%$ , $< \pm 2\%$ guaranteed (power feedback) * $11.6 \pm 1\text{mm} - (1/e^2)$ at laser output optic	
Beam diameter	Linear (parallel to base), purity > 100:1 $93.5\text{kg}$ (73kg without covers)	
Polarisation	50VDC $\pm 1\%$	
Weight	486A	
Voltage	292A	
Peak RF input current	$< 60\mu\text{s}$	
Maximum average input current	2-400µs	
Optical rise/fall time	0-130kHz	
Pulse width		
Pulse frequency		

\* Power feedback turn on response is typically 300-500 milliseconds



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Please note that while every effort has been made to ensure that the data given in this document is accurate, due to a policy of continuous improvement, the information, figures, illustrations, tables, specification and schematics contained herein are subject to change without notice.



**Class 4 Invisible laser radiation.**

Avoid eye or skin exposure to direct or scattered radiation