

Speckle Reducer

Reduced speckle for improved machine vision performance.



Local interferences can cause unwanted speckle noise within your laser system and degrade your important images. The IQ7 Laser Speckle Reducer allows you to significantly reduce speckle noise and improve image quality.

The IQ7 dynamically diffuses the laser's coherent beam to ensure speckle reduction efficiency. Diffusing angles of 1°, 10° and 20° provide maximum versatility for a range of uses. This device can be used in beam homogenization, 3-D scanning, metrology, microscopy and interferometry applications to remove local interferences. The IQ7 Laser Speckle Reducer for machine vision is available in wavelengths from 405 to 808nm with three different circular diffusing angle options.

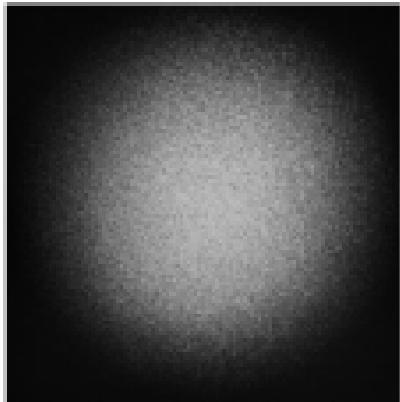


Features

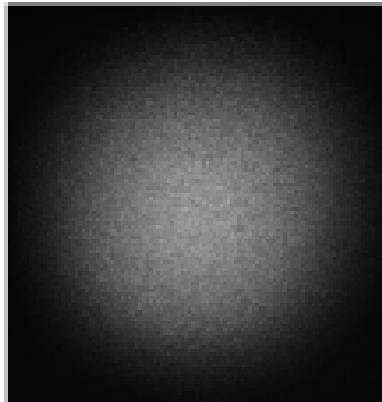
- Optional on board microprocessor with software interface
- Available with digital or analog modulation; 200Hz max modulation
- 1°, 10° & 20° emission angles
- Customized versions available upon request

Applications

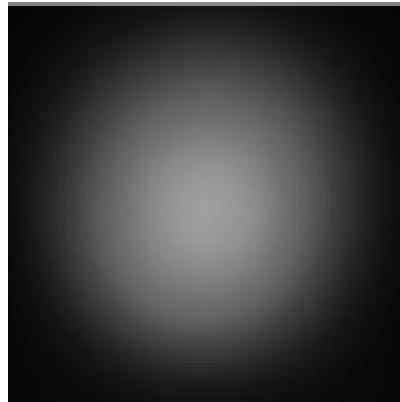
- Laser Projection Displays
- Beam Homogenizer
- Metrology
- Microscopy
- Interferometry
- Lithography



Without IQ7



With IQ7 Off



With IQ7 On

Specifications	IQ7C (405-85)	IQ7C (450-80)	IQ7C (515-80)	IQ7C (660-150)	IQ7C (808-120)
Wavelength (nm)	405 ± 5nm	450 ± 10nm	515 ± 5nm	660 ± 5nm	808 ± 5nm
Output Power (mW)	0.1 - 85	0.1 - 80	0.1 - 80	0.1 - 150	0.1 - 120
Laser Spectrum Width	Diode laser narrow spectrum width remaining (<= 2nm)				
Max. P out before LSR	85 mW	80 mW	80 mW	150 mW	120 mW
Speckle Contrast	<i>Cone angle 1°</i>		<i>16 - 24% in 1 - 10 ms</i>		
	<i>Cone angle 10°</i>		<i>4 - 6% in 1 - 10 ms</i>		
	<i>Cone angle 20°</i>		<i>2 - 3% in 1 - 10 ms</i>		
Operating Voltage (VDC)	5 - 8*	5 - 8*	5 - 8*	5 - 8*	5 - 8*
Module Max Operating Current (mA)	3000	3000	3000	3000	3000
Laser Diode Max Current (mA)	1200**	1200**	1200**	1200**	1200**
Temperature Stability (°C)	0.02	0.02	0.02	0.02	0.02
Temperature Range (°C)	5 - 40	5 - 40	5 - 40	5 - 40	5 - 40
Diode Config Compatibility	9mm, 5.6mm, C-mount	9mm, 5.6mm, C-mount	9mm, 5.6mm, C-mount	9mm, 5.6mm, C-mount	9mm, 5.6mm, C-mount
Recommended Options	G38A, MB6, R3, R4	G38A, MB6, R3, R4	G38A, MB6, R3, R4	G22, MB6, R3, R4	G22, MB6, R3, R4

* Lasers above 600nm require 5VDC. Lasers below 600nm require 8VDC. ** Not all currents can be achieved at all frequencies. Higher currents require heat sink