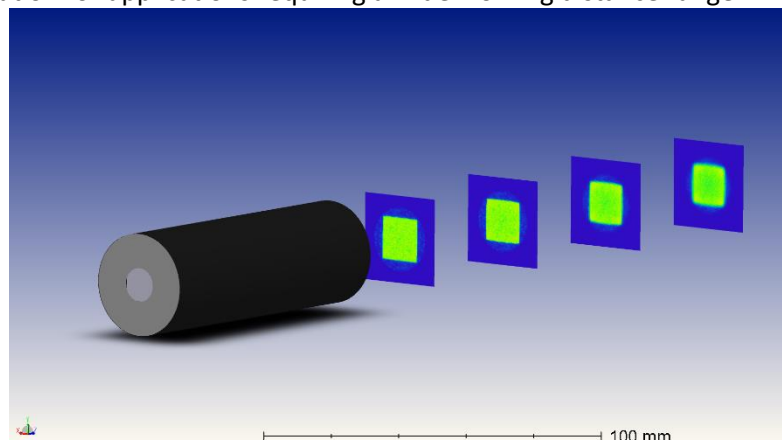


Collimated Homogenizer Module

Collimated Homogenizer Module is Holo/OR's tailored solution for applications requiring a wide working distance range. The Collimated Homogenizer is the natural complement for our standard diffractive Homogenizers which give a shaped intensity beam at a unique specified working distance. With a Collimated Homogenizer Module, the uniform-intensity beam is maintained with high fidelity, power uniformity, and constant size/shape over an extended working distance range. The Collimated Homogenizer will be a good solution for applications such as industrial surface treatment where the working surface is uneven or located at varying distances from the laser delivery system.

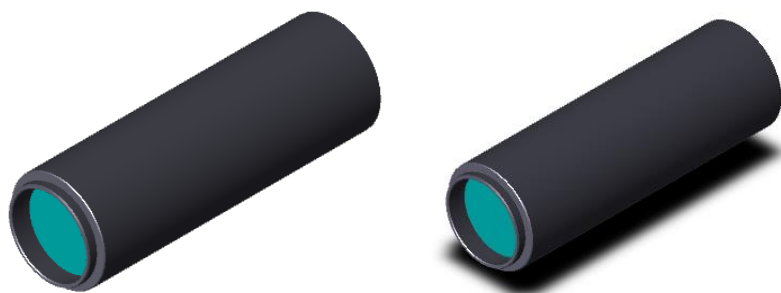


Typical applications:

1. Aesthetical skin treatment
2. Laser welding of polymers
3. Surface Treatment
 - a. Laser cleaning
 - b. Laser hardening
 - c. Color Ablation/ Depainting
 - d. Decoating

Key advantages of the module

Key advantages of the module	
	Affordable price
	Easy installation and system integration
	Not sensitive to incident beam parameters
	Easy customization



Application idea: Fiber coupled Collimated Homogenizer

The module can be integrated into fiber laser delivery systems by direct connection via fiber collimator. Preferable collimator with small output beam size (< 2 mm). Standard fiber adaptors can be used for fiber interface.

Schematic sketch of the module:





Collimated Line Homogenizer

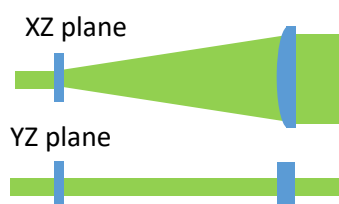
Collimated Line Intensity is wanted for many optical application for example:

- Laser cleaning
- Laser inspection
- Ablation
- Surface modification
- Debonding
- Laser 3D scanning

Typically the customers have specific requirement for line length and width, therefore we suggest custom solution for line shape module based on catalogues' opto-mechanical parts for prototyping and custom opto-mechanical modules for industrial purposes.

Collimated Line Homogenizer can be also combined with fiber interface.

Optical sketch for collimated Homogenizer Line system:



Products list:

	Wavelength[nm]	Output shape[mm]	Output size[mm]
Col_RD-001-Q	532	Round	7.8
Col_HM-001-I	1064	Square	13.2x13.2

Data sheet example for standard products:

Optical properties	Value
Wavelength	1064 nm
Incident beam size	<3 mm*
Incident beam mode	MultiMode or Single Mode**
Glass material: DOE/Lens	Fused Silica/ BK7
Collimation length	> 200 mm
Output Shape	Round/Square/Line
Output Size	??x?? mm
Coating	AR/ AR (specific type of coating)
Optomechanical properties	
Module length	92.7 mm
External Diameter	30.5 mm

*Smaller beam has better effect on collimation length and shape contrast

** For highly coherent laser speckles will appear

