

Flat Top Diffuser

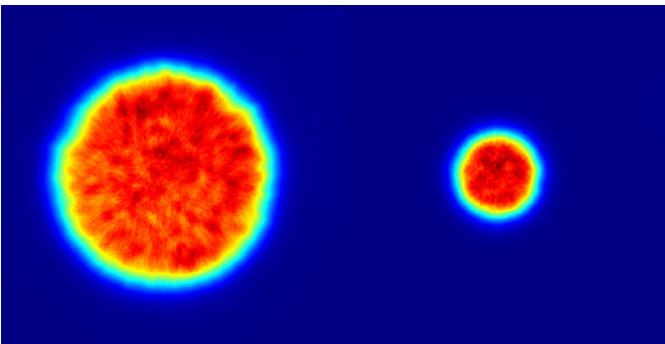
Overview:

Improve the performance of multimode laser applications with the use of the PowerPhotonic Flat Top Diffuser. Convert multimode beams into accurately controlled flat tops at the focus of a focusing lens.

Flat Top Diffusers are thin glass windows, with a precision-manufactured freeform surface, designed to be easily integrated into your laser system.

The PowerPhotonic Flat Top Diffuser is suited to applications where a highly uniform flat top spot is required. Increase the effectiveness and speed of the tattoo removal process with a controlled flat top. Reduce hot spots and diffractive effects seen in laser projection with the use of the flat top diffuser.

Output Profile:



Key Features:

- Insensitive to Input Parameters
- Reduced Diffractive Effects
- Uniform Flat Top
- High Power Handling

The PowerPhotonic Effect:

>95%

Shaping Efficiency

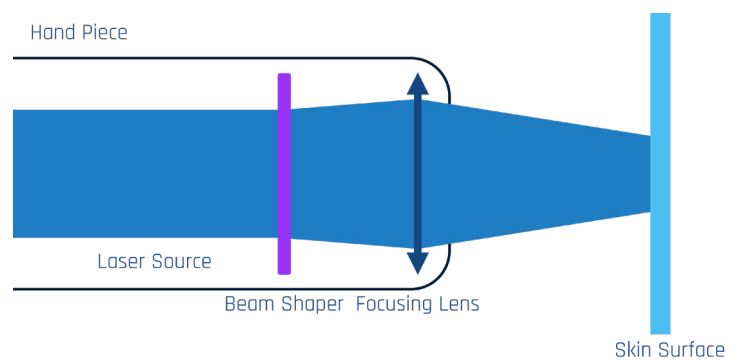
>20kW

CW Power Handling

>100J

Pulsed Energy Handling

Optical Layout:



Target Applications:

- Laser Tattoo Removal
- Laser Skin Rejuvenation
- Laser Projection
- Source Homogenization



Flat Top Diffuser

Standard Part:

Part Number	Design Wavelength (nm)	Clear Aperture Diameter (mm)	Output Divergence, Full Angle, (Deg)
PP-MM-CFT-D1-532-AR	532	15	1
PP-MM-CFT-D2.5-532-AR	532	15	2.5

General Specification:

Parameter	Value
Part Diameter (mm)	25.4±0.05
Part Thickness (mm)	1.01±0.05
Coating Wavelength Band (nm)	420-680
Coating Reflectance, Per Side (%)	<0.4

Performance:

Parameter	Value
Flatness Factor ¹ , F_f	>0.7
Plateau Uniformity ¹ , U_p	<0.2
Power in the Bucket (%) [*]	>90

¹ As defined in ISO 13694:2019

^{*} Power in the Bucket is defined as fractional power within the primary spot

Custom Options:

The PowerPhotonic Flat Top Diffuser can be readily modified for specific laser systems and processes. Our unique manufacturing and design process allows for efficient customisation without the need for masks or masters.

Some of the custom options available include:

Different laser wavelengths (between 450nm and 2µm), different input beam diameters, different output divergence angles, different output shapes, different extinction ratios and different part diameters and thickness.

Sales and Technical:

United Kingdom

PowerPhotonic Ltd.
5A St. David's Drive
Dalgety Bay
Fife
KY11 9PF
+44 1383 825 910

North America

PowerPhotonic Inc.
16220 S. La Cañada Drive
Sahaurita
AZ 85629
United States
+1 571 866 0551

Japan

yoshiyuki.mori@powerphotonic.com
+81 80 1398 0331

sales@powerphotonic.com

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