

π Shaper for CO₂ and IR lasers

π Shaper 7_7 and π Shaper 12_12
Highly efficient Beam Shapers for CO, CO₂
and other MWIR and LWIR lasers
converting Gaussian to Flattop profile



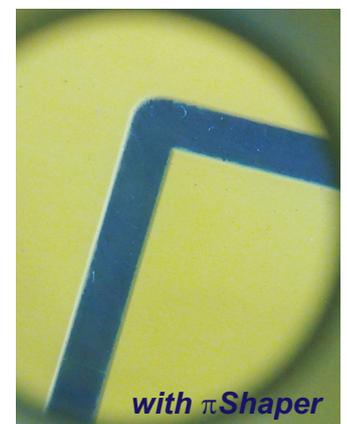
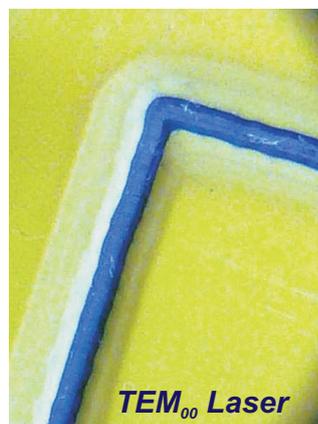
With these unique tools it is possible to convert a single mode or multimode laser beam of similar to Gaussian intensity profile into a collimated Flattop beam with nearly 100% efficiency.

π **Shaper** produces collimated Flattop beam (like Greek letter π) over a large working distance. This enables to manipulate and re-size the beam with conventional imaging optics.

Almost the same effective sizes of input and output beams let it easy to integrate the π **Shaper** in your application.

Applications:

- Welding of metals and plastics
- Marking and Engraving
- Printing
- Material micromachining
- Material processing
- Cutting
- Cladding



Comparison of scribing results (Courtesy of Chutian Laser)

Beam Shaping never was so easy!

No more energy loss!



Technical Specifications

Common for all π Shaper models for CO ₂ , CO, MWIR and LWIR lasers:	
Type	Telescope of Galilean type (without internal focus)
Input beam	- Collimated - TEM ₀₀ or multimode with Gaussian or similar intensity profile
Output beam	- Collimated - Flattop, uniformity within 5% - High edge steepness
Other features	- Compact design suitable for scientific and industrial applications - Materials of lenses ZnSe - Extended working distance - Option of water cooling
Applications based on	CO ₂ , CO, Quantum Cascade lasers, other MWIR or LWIR lasers

Features

	π Shaper 7_7	π Shaper 12_12
Input beam features	Diameter 7 mm (1/e ²)	Diameter 12 mm (1/e ²)
Output beam	Diameter 7 mm	Diameter 12 mm
Overall dimensions	- Diameter 39 mm - Length 135 mm	- Diameter 49 mm - Length 271 mm
Weight	250 g	560 g
Mounting	M27x1	Input: Outer Thread M27x1 Output: Outer Thread M33x1 Adaptor M33x1 -> M27x1 (Outer)

Spectral versions

Model	_10.6	_9.4	_5.1
Optimum spectral range, nm	10000 - 11000	9000 - 10000	5000 - 5500

