

# Focal- $\pi$ Shaper\_10\_CO<sub>2</sub>

*series of high-efficient Beam Shapers  
for focused TEM<sub>00</sub> laser beams of CO<sub>2</sub> lasers*

## Applications:

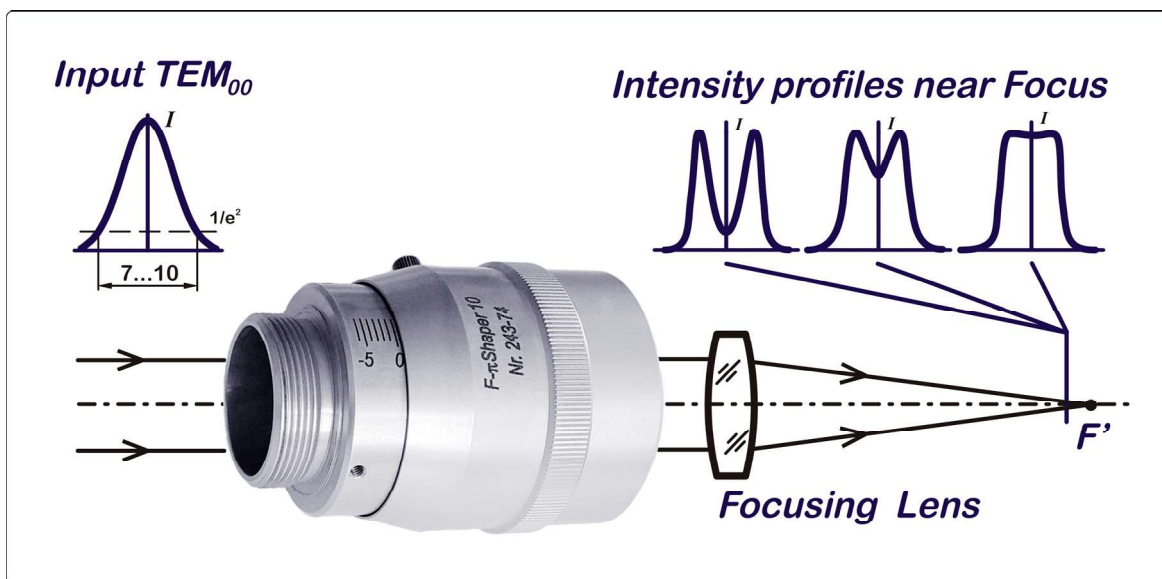
- Cutting
- Scribing
- Marking and Engraving
- Drilling
- Material micromachining
- Printing
- Microwelding



With these unique tools the flexible manipulating the intensity distribution of focused spots becomes a reality.

With nearly 100% efficiency and without side-lobes **Focal- $\pi$ Shaper** produces the optimal in the microprocessing focused spots:

- Flat-top
- “inverse Gauss”
- “Doughnut”



***Beam Shaping never was so easy!***

## Specifications

Common for all Focal- $\pi$ Shaper 10_CO <sub>2</sub> models:		
Type	Telescope of Galilean type ( without internal focus)	
Input beam	<ul style="list-style-type: none"><li>- TEM<sub>00</sub>, Collimated or low divergent with full divergence angle <math>\pm 5</math> mrad</li><li>- Diameter &lt; 20 mm</li><li>- Optimum 2<math>\omega</math> diameter for a Gaussian beam 7...10 mm (1/e<sup>2</sup>)</li></ul>	
Output beam	<ul style="list-style-type: none"><li>- Collimated or low divergence</li><li>- Profile is optimized for flat-top, doughnut spot in focal plane of a diffraction limited lens</li><li>- Diameter &lt; 15 mm</li></ul>	
Other features	<ul style="list-style-type: none"><li>- Easy integration in equipment</li><li>- Compact design suitable for scientific and industrial applications</li><li>- Operation with diffraction limited focusing lens of any type</li><li>- Easy alignment</li><li>- Optimized to work with scanning optics: mirror scanners, F-<math>\Theta</math> lenses</li></ul>	
Overall dimensions	<ul style="list-style-type: none"><li>- Diameter 45 mm</li><li>- Length &lt; 72 mm</li></ul>	
Weight	250 g	
Mounting	External Thread M 27x1	
Focal- $\pi$ Shaper 12_CO <sub>2</sub> features		
Model	F- $\pi$ Shaper 10_CO <sub>2</sub> _10.6	F- $\pi$ Shaper 10_CO <sub>2</sub> _9.4
Optimum spectral range**	10.2 – 10.9 $\mu$ m	9.1 – 9.7 $\mu$ m
* - working wavelength range without taking into consideration the coatings		
** - according to coatings applied		

## Comparison of Scribing (Courtesy of Altechna)

