

# PIR-Fiber Cables for Flexible Delivery of CO<sub>2</sub>-Laser Power



art photonics



## FlexiRay®

The most flexible cables  
for CO<sub>2</sub>-laser power delivery

Stable transmission under  
small radius bending

SMART-technology to suppress  
Fresnel reflection losses

FlexiRay® product line from art photonics includes unique High Power PIR-Fiber Cable for flexible delivery of CO<sub>2</sub>-laser radiation. Compared to *hollow waveguides* PIR-fibers provide more stable power transmittance under cable bending and can be bent for a smaller radius. Special SMART treatment of PIR-fiber ends suppresses Fresnel reflection to increase output power for 10-15%

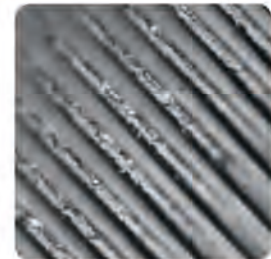
### Applications:

- Industrial
- Medical
- Military

broad spectra fiber solutions

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# SMART - Special Micro Anti-Reflection Treatment



## CO<sub>2</sub> Laser Power Delivery Set (1.5m length) Specification

Standard Fibers	PIR 400/500	PIR 600/700	PIR 900/1000
Core Diameter, $\mu\text{m}$	400	630	900
Cladding Diameter, $\mu\text{m}$	500	700	1000
Total transmission @ 10.6 $\mu\text{m}$	>75% (1m cable)	>75% (1m cable)	>75% (1m cable)
Beam Divergence	0.13 (1 m cable); 0.16 (1.5 m cable)		
Max. transmitted Power (CW)	20	35	40
Min. Bending Radius (multiple)	50 mm	70 mm	100 mm

<b>Delivery Set includes</b>	Adjustable coupler to laser head PIR-fiber cable Focusing Handpiece Cooling gas inlet unit	
<b>Coupler to Laser Head</b>	Maximal Laser Beam diameter	8 mm
	Diameter	30 mm
	Length (with gas cooling inlet)	140 mm
<b>PIR-Fiber cable</b>	According to PIR-Fiber specification, in PEEK tubing, with outer jacket for cooling gas, TI-SMA-connectors	
<b>Focusing Handpiece</b>	Focusing Handpiece diameter	max 12 mm
	Focusing Handpiece length	max 100 mm
	Focal spot size	0.65 - 1 mm
	Operating distance	20 mm
<b>cooling gas inlet unit</b>	Inlet diameter	6 mm
	Cooling gas excess pressure	0.1 - 0.15 atm

