# IPG Photonics Scanner Brochure

from the World Leader in Fiber Lasers





The Power to Transform®

IPG Photonics has revolutionized the materials processing industry by providing customers with reliable, compact, energy efficient fiber lasers. IPG now offers Mid-Power and 2D & 3D High-power Scanners with laser power handling of up to 12 kW to optimize applications such as remote welding, remote cutting and surface cleaning/treatment.

# Mid-Power Scanner



### Standard Features

- Optimized beam quality and spot size
- High-quality through the lens vision
- Adjustable high-performance air-knife assembly
- IPG Scan Controller or XY2-100 Interface
- Seamless Integration to IPG Lasers
- External interfaces available for easy integration with automation
- IPGScan Comprehensive Application Software



USB Camera Package -

P40-007470

Specifications		Configuration	Example
Laser			
Wavelength (nm)	1060-1080	Lens Focal Length (mm)	254
Max CW Laser Power (W)	2 kW	Field size (mm²)	160 × 160
Fiber Adaptor	HLC-8	Working distance (mm)	244
Dynamic Performance		Magnification	5x
Tracking Delay (ms)	0.1	Process Fiber Diameter (µm)	100
Repeatability (rms)	<5 µrad	Spot size (µm)	~ 500
Optical Configurations		AVAILABLE ACCESSORIES	
Mirror clear Aperture (mm)	12		D20 0070 47
Collimator Focal Length Options (mm)	50	Air-knife with Mount	P30-007947
Focal Length Options (mm) <sup>1</sup>	100, 160FS, 163, 254, 254FS 330	Camera Arm Assembly	P30-002424 (Horizontal) P30-009929 (Vertical)
Other Parameters		External Control Interfaces - Motion Interface - 24V Interface	P30-003779 P30-003943
Control	IPG Controller, XY2-100		
Weight (kg)	≈4 (with FL254FS Lens)	Multiple Camera Options HD Camera Package P30-007443	HD Camera Package - P30-007443
Note 1 – For power levels >200 W, fused silica lenses are required.	See available options on Page 6.		Ethernet Camera Package

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# 2D High-Power Scanner



### Standard Features

- Highest Power handling in the industry: 12 kW
- Optimized beam quality and spot size
- High-quality through the lens vision
- Adjustable high-performance air-knife assembly
- IPG Scan Controller
- Seamless Integration to IPG Lasers
- External interfaces available for easy integration with automation
- IPGScan Comprehensive Application Software



Specifications		Configuration	Example
Laser			
Wavelength (nm)	1060-1080	Collimator Focal Length (mm)	120
Max CW Laser Power (W)	12 kW	Lens Focal Length (mm)	400
Fiber Adaptor	HLC-8, HLC-8 (Rotary), LCA	Field size (mm <sup>2</sup> )	200 × 200
Dynamic Performance		Working distance (mm)	413
Tracking Delay (ms)	0.5	Magnification	3.2x
Repeatability (rms)	<5 µrad	Process Fiber Diameter (µm)	200
Optical Configurations		Spot size (µm)	~ 600
Mirror clear Aperture (mm)	33	AVAILABLE ACCESSORIES	
Collimator Focal Length Options (mm)	100, 120, 140, 160		
Focal Length Options (mm)	254, 400	Air-knife with Mount	P30-01035
Other Parameters		7in Circular Air-knife	CEU00633690001XU
Control	IPG Controller & Software	Camera Arm Assembly P30-002424 (Ho P30-009929 (Ver	P30-002424 (Horizontal) P30-009929 (Vertical)
Weight (kg)	≈11-14	External Control Interfaces - <i>Motion Interface</i> - 24V Interface	P30-003779 P30-003943
		Multiple Camera Options	HD Camera Package - P30-007443 Ethernet Camera Package P30-007444 USB Camera Package - P40-007470

# ■ 3D High-Power Scanner



### Standard Features

- 100 mm Dynamic Z-axis range
- Optimized beam quality and spot size
- High-quality through the lens vision
- Adjustable high-performance air-knife assembly
- IPG Scan Controller
- Seamless Integration to IPG Lasers
- External interfaces available for easy integration with automation
- IPGScan Comprehensive Application Software





## AVAILABLE ACCESSORIES

Air-knife with Mount	P30-010625
External Control Interfaces - <i>Motion Interface</i> - 24V Interface	P30-003779 P30-003943
Camera	All 3D High Power Scanners ship with an Ethernet Camera Package

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# Control and Software

IPG remote scanning products are available with internally developed software that is designed for precise control of IPG lasers (YLR/YLS/YLPN series). IPG's software, IPGScan, provides users with the ability to select between three different categories of software (IPGWeld/IPGMark/IPGClean). Each software offers tailored parameters specific to the type of application and laser in order to provide optimized processing. This software, in combination with either of the external control interfaces, allows the scanners to be implemented in various automated systems such as robotic, PLC, gantry, rotary, and stage applications.



# Configuration





<sup>1</sup> IPG software included. Consult IPG beam delivery representative for proper interface type. <sup>2</sup> Allows rotation of fiber (Typically used with square fiber applications)

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## www.ipgphotonics.com

IPG Photonics manufactures a wide range of laser products with laser classifications ranging from Class I to Class IV. Please review the individual product specification for the optical performance characteristics specific to the device. This information typically includes the wavelength range, output power (CW and/or Peak), Pulse Energy, Pulse Repetition Rate, Pulse Width, etc.

VISIBLE AND/OR INVISIBLE LASER RAD/ATION AVOIDE EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RAD/ATION CLASS X LASER PRODUCT Per IEC 60825-1: 2007-03: 21 CFR 1040: 10(0)