Flyer 3D Marking Head System

SYNRAD
www.synrad.com

3-axis marking system

Mark larger fields - up to 42" x 39"

Works with Synrad lasers - up to 400W*

Synrad performance & reliability

* See list of compatible lasers below

Take your laser marking operations to new dimensions with the Flyer 3D dynamic 3-axis marking system - think B I G

Break free from the confines of traditional small-field, two-dimensional marking with Synrad's **Flyer 3D** CO_2 laser marking system. Featuring a third servo-driven z-axis to dynamically focus the laser beam and continuously maintain a small spot size while marking, **Flyer 3D** empowers production lines with the ability to sharply and quickly mark larger fields (up to 1084mm x 993mm) and longer objects, such as banners, with never-before experienced accuracy, speed and detail.

The **Flyer 3D** is designed to work with select Synrad industrial CO_2 lasers up to 400 watts, and is backwards compatible with all Synrad **FH Flyer** marking heads, making system upgrades smooth and uncomplicated. Initial setup and beam positioning is easier than ever with the built-in visible diode pointer that is standard to the **Flyer 3D**. Fully assembled straight out of the box, **Flyer 3D** is simple to mount, quick to set up and easy to implement; communicating with your production systems via Ethernet TCP/IP communications protocol, MODBUS/IP, or hard-wired I/O.

Coupled with Synrad's Firestar line of continuous wave lasers and Synrad's all new Pulstar pulse CO_2 lasers, the **Flyer 3D** system offers a variety of configurations to choose from, providing you with the flexibility you need to pick the best laser, at the right wattage, for your marking, cutting or drilling needs. Get a **Flyer 3D** and think BIG.

Flyer 3D Operating Specifications:

Object Marking:

- Index/tracker mode
- 1D/2D codes (including UID) Vector objects
- TrueType®/Open Type® Fonts/ Stroke Text/PostScript® Fonts
- Monochrome/Grayscale Bitmaps
- Banner tracking

Communication / Control Systems:

- Ethernet TCP/IP
- MODBUS/IP
- WinMark Pro
- Stand-alone mode
- .NET Form Control
- Active X Control

I/O Capability:

- 8 opto-isolated inputs
- 8 opto-isolated outputs
- Built-in I/O power supply

Specifications:

Flyer 3D Marking Head	
Field Size Range	269mm x 227mm to 1084mm x 993mm
Spot Size Range** M2 = 1.0	165µm - 750µm
Spot Size Range** M2 = 1.2	181mm - 822mm
Repeatability	0.002% of the smaller of field height and field width dimensions
Working Distance Range	268mm - 1320mm
Marking Speed	7620 mm/s
Input Voltage / Input Current	48V ±0.5V / 6.7A, 20A Peak
Heat Load	320W nominal, 400W max
Input Beam Power (continuous)	500W
Input Beam Wavelength***	10.2µm - 10.8µm
Operating Temperature Range	0°C - 40°C
Humidity Range	0-95%, non condensing
Dimensions (L x W x H)	558 x 191 x 219 (mm) / 21.9 x 7.5 x 8.6 (in)
Dimensions (L x W x H) p100 only	580 x 191 x 280 (mm) / 22.8 x 7.5 x 11.1 (in)
Weight	21.45 lbs / 9.7 kg

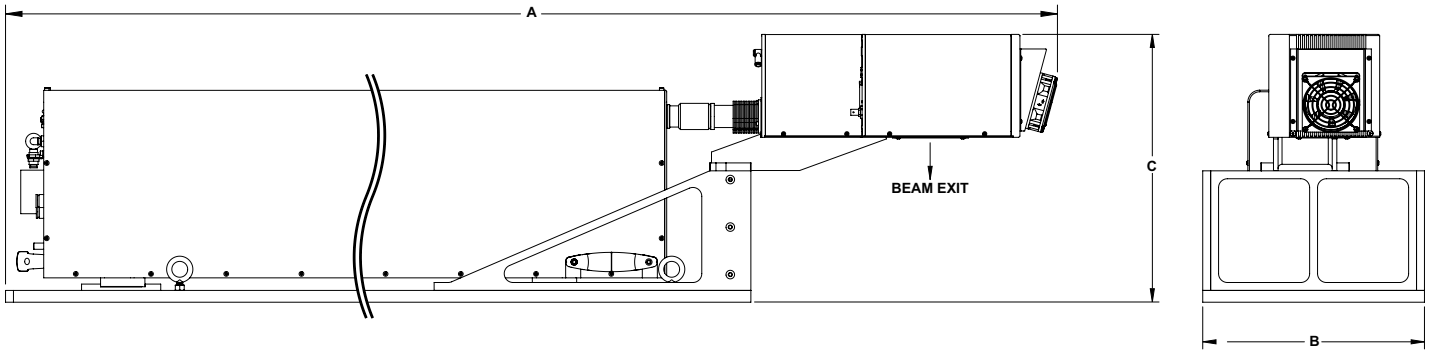
* Beam specifications measured at $1/e^2$.
** $1/e^2$, center of field
*** 9.3 µm available, contact your Synrad Representative
Specifications subject to change without notice.

Flyer 3D System Pairings		Cooling System	
Laser	Watts	Fan	H_2O
Series 48-1	10W	✓	✓
Firestar v30	30W	✓	
Firestar v40	40W	✓	
Firestar t100	100W	✓	
Firestar ti60	60W	✓	✓
Firestar ti80	80W	✓	✓
Firestar ti100	100W		✓
Pulstar p100	100W		✓
Pulstar p150	150W		✓
Pulstar p250	250W		✓
Pulstar p400	400W		✓
Firestar f201	200W		✓
Firestar i401	400W		✓

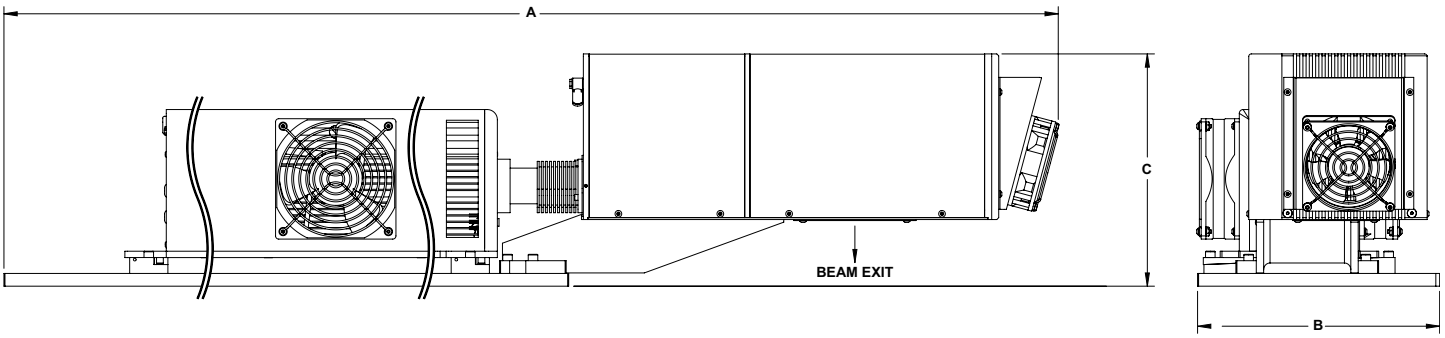
Synrad® tel: 1.425.349.3500 | fax: 1.425.349.3667 | e-mail: synrad@synrad.com | www.synrad.com

Flyer 3D Marking Head System

Outline and Mounting—Flyer 3D with i401*:



Outline and Mounting—Flyer 3D with Fan-Cooled ti Series*:



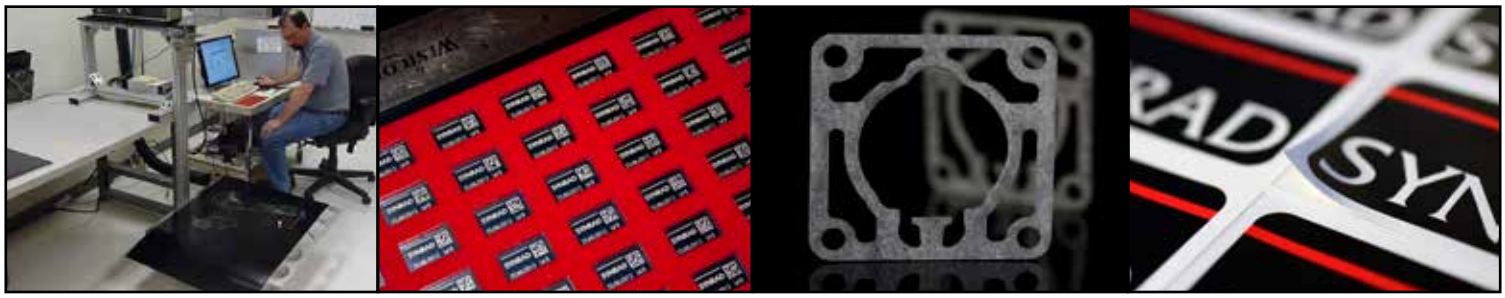
Dim	Dimensions for Flyer 3D System Pairings									
	48-1	v30	v40	t100	ti-Series	p100	p150	p250	f201	i401 / p400
A	40.12 [1019.08]	40.24 [1022.21]	49.24 [1250.81]	49.21 [1250.01]	49.21 [1250.01]	50.11 [1272.75]	58.33** [1481.58]	75.33 [1913.28]	75.33 [1913.28]	75.36 [1914.08]
B	7.96 [202.18]	8.00 [203.20]	9.50 [241.30]	9.50 [241.30]	9.50 [241.30]	9.50 [241.30]	9.50 [241.30]	14.00 [355.60]	14.00 [355.60]	14.00 [355.60]
C	9.12 [231.52]	9.12 [231.52]	9.12 [231.52]	9.12 [231.52]	9.12 [231.52]	11.55 [293.24]	11.55 [293.24]	10.37 [263.40]	10.37 [263.40]	16.91 [429.54]

* See www.synrad.com for outline and mounting drawings for other Laser/Flyer 3D system pairings.

** Contact factory for final length specifications.

Typical Applications:

Marking Applications: With the use of lower wattage lasers, like the Firestar v30, the **Flyer 3D** Marking Head expands your marking capabilities to greater sizes with greater accuracy, speed and detail; but don't just think big, think multi-marking on a larger scale. ***Cutting Applications:*** With the use of larger wattage lasers, like the Pulstar p250 or Firestar i401, the **Flyer 3D** Marking Head lets you cut materials for the packaging/converting industries, like kiss-cutting labels or packaging materials; cut and shave fabrics and textiles for the garment industry; and even plastic films for the electronics/cellular industries and various manufacturing processes. Think BIG.



Oversize marking with greater accuracy | Multiple-up marking on larger scale | Delicate cutting with greater detail | Precise kiss-cutting in larger sizes

These are only some examples of potential uses for the **Flyer 3D** Marking Head.
Contact your Synrad Representative to determine the best laser for your applications.

Invisible Laser Radiation.
Avoid eye or skin exposure to direct or scattered radiation.
Class 4 Laser Product.

CE

To learn more about the Flyer 3D, scan here

© Synrad, 2016

Synrad, 4600 Campus Place | Mukilteo, WA 98275, USA
tel: 1.425.349.3500 | fax: 1.425.349.3667 | e-mail: synrad@synrad.com