



FH-Series "Flyer" Marking Head marks stationary or moving parts via Ethernet/USB control

An effective solution for OEMs and Systems Integrators alike, the newest member of Synrad's *FH* family of marking heads, the *FH Series "Flyer"*, marks at speeds up to 450 characters per second in either static (index) or dynamic (tracking) laser-marking applications. A simple mounting kit is all that is required to pair *FH Flyer* with any Synrad CO₂ laser from 10 to 125W to accomplish a wide range of applications.

Flyer's all-digital technology offers users several benefits, including faster, better marks than ever before. A USB connection eliminates the need for an interface card, simplifying set-up. Once configured (through the USB connection), the head can then communicate with the computer, server or network via Ethernet interface. In addition to the *FH Series'* proven ease of integration, *FH Flyer* provides additional Input/Output capability, as well as a user-accessible, fully isolated 15V power

source for powering external I/O devices. Finally, a gas purge port provides a connection point for a customer-supplied purge gas to lower the risk of contamination of internal optical surfaces and ensure consistent marking performance.

In addition to meeting the latest regulatory requirements for WEEE/RoHS, *Flyer* retains the same mounting configuration and footprint of the previous *FH Series* heads. With some minor adjustments, replacement of existing *FH* heads is quick and easy. *Flyer* uses Synrad's complete line of *FH Series* focusing lenses, so the working distances, field sizes, and mark files of current *FH* users are fully *Flyer* compatible. Designed specifically for the operation of *Flyer*, the latest version of Synrad's powerful control software maintains compatibility with existing *FH Series* heads.



FH Series *FLYER* Marking Head

Features

- Control via Ethernet/USB
- Index/Tracker Mode
- Gas Purge Port
- Encoderless Tracking
- Variable PWM Frequency
- Supports Modbus I/P

I/O Capability

- 8 Built-In Inputs
- 8 Built-In Outputs
- Built-In DC Supply for I/O, Part Sensor/Encoder

Object Marking

- 1D/2D Codes (including UID)
- Vector Objects
- TrueType®/Stroke Text
- Monochrome/Grayscale Bitmaps
- Radial Marking
- Banner Tracking

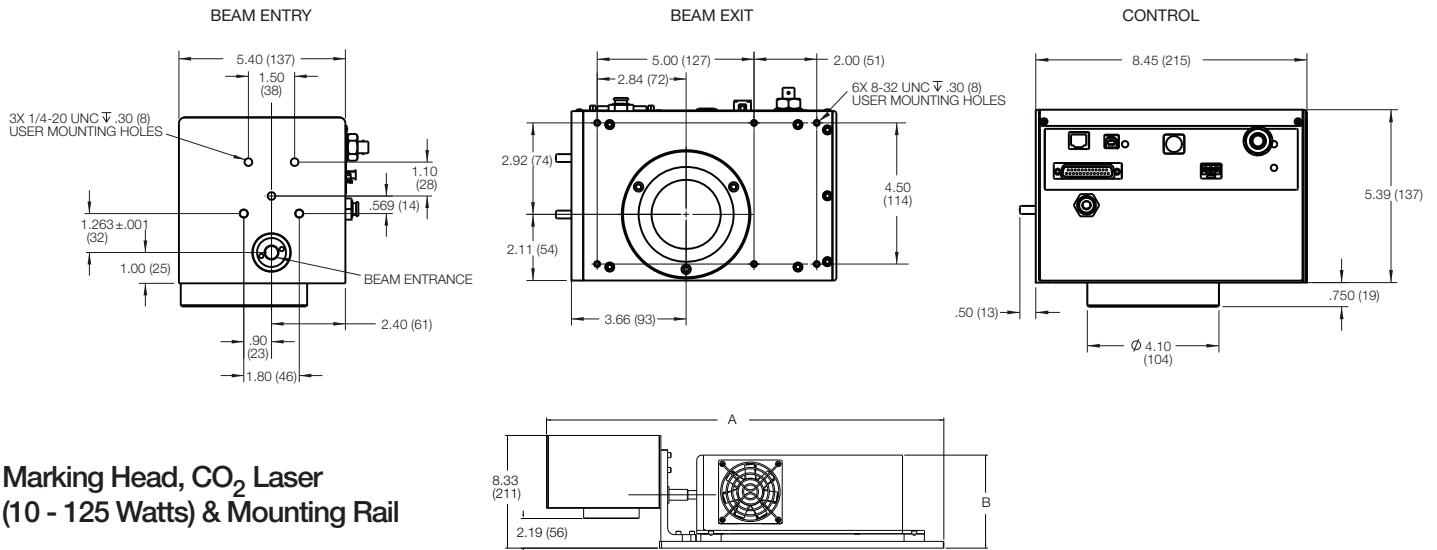
Marking Specifications	Focusing Lens Size				
	370mm	200mm	125mm	125mm (HP*)	80mm
Field Size, typical (mm)	198 x 198	110 x 110	74 x 74	66 x 66	27 x 27
Spot Size, 1/e ² (µm)	540	290	180	180	116
Working Distance, typical (mm)	350±5	190±3	128±2	125±2	74±1
Depth of Field, typical (mm)	±10	±2.5	±1.5	±1.5	±0.4
Marking Speed ² (characters / sec, max)	450	450	450	450	450
Dimensions (in): 5.40 x 8.45 x 5.39	Weight: 9.6 lbs (4.4 kg)		Electrical Input: 30 VDC, 4A, 8A Peak		
Acceptable Operational Ambient Temperature Range: 0 degrees C to 40 degrees C					

The typical focal length (working distance) is marked on each lens mount since the actual working distance may vary from lens to lens. For this reason, it is important to provide a Z-axis adjustment between the FH Series Marking Head and the marking surface. Consult your marking head's final test report for the actual measured working distance.

²Based on a character height of ~3mm, and a 200mm focusing lens.
* 125mm lens for use with lasers 40 watts and higher.

Specifications subject to change without notice.

FH Series *Flyer* Marking Head - Outline & Mounting



Marking Head, CO₂ Laser (10 - 125 Watts) & Mounting Rail

	48-1 (W)	48-2 (W)	48-5W	Evo 100	Evo 125	v30	v40	t60	t80	t100	f100
	10 Watts	25 Watts	50 Watts	100 Watts	125 Watts	30 Watts	40 Watts	60 Watts	80 Watts	100 Watts	100 Watts
A	29.14 (740)	43.14 (1096)	47.50 (1207)	52.60 (1336)	60.10 (1527)	29.35 (745)	38.35 (974)	38.35 (974)	38.35 (974)	38.35 (974)	38.35 (974)
B	5.29 (134)	5.29 (134)	5.53 (140)	6.35 (161)	6.35 (161)	6.80 (173)	6.83 (174)	6.95 (177)	6.95 (177)	6.95 (177)	7.66 (195)



Dimensions are in inches (millimeters)
Additional drawings at www.synrad.com

