

# CFA Carbon Fiber Analyzer

## Features

- For analysis of carbon fiber characteristics and carbon fiber quality control. Analysis of fiber tow width, filament breakage, fiber tension, etc.
- For laboratory / pilot line use (CFA-F), as well as for monitoring fiber on carbon fiber production lines (CFA-Lite).
- Various options are available to meet custom requirements.
- Simple data acquisition (USB type media or SD card) or on-line data acquisition via PC supplied for monitoring and data logging.



## Description of Available Features and Options

Please contact Izumi International, Inc. for other special Requirements not shown below.



Auto Traverse Let-off  
Traverses as fiber is let-off, to maintain fiber width coming off of the package.



Tension Control/Monitoring  
Wide selectable range of tension control and monitoring, to simulate various processes.



Fiber Feed System  
Friction driven feed roller systems with high grade surface finish.



Filament Breakage Counter  
Detection of single filaments allows for quality control of fiber. Detection lengths can be set.



Fiber Width Measuring  
Measurement via high accuracy CCD micrometer.



Full Enclosure  
Enclosure prevents carbon fiber contamination to other equipment in the vicinity.



Take up winder  
Take up winder same as production models, allow for reuse of fiber.



PC Station  
PC station for data analysis, real time monitoring, data logging and control.

## Specifications: CFA-Lite (for in-line monitoring)

This system to be used in-line for carbon fiber production quality monitoring.

Width sensor	Via optical micrometer width sensor
Fiber Width	25mm maximum (* Please consult Izumi International, Inc. if wider rages are required.
Speed	Max 10m/min (* Please consult Izumi International, Inc. if higher speeds are required.
Filament breakage sensor (optional)	Thru beam type fiber optic sensor Minimum filament diameter detection is 0.007mm diameter.
Operator interface	HMI provides real time reading of fiber width in mm.
Data acquisition	System records data to a USB data stick to enable viewing of logged data via PC after data collection.
Electrical	110VAC single phase (* Please consult Izumi International, Inc. if other voltage is required. NEMA12 or equivalent rated enclosure.
Mounting	Mounting brackets per customer requirements can be configured.

## Specifications: CFA-F (for off-line monitoring)

This system to be used for off-line carbon fiber analysis. Purpose of use could include quality control, research and development, customer process simulation, etc. The systems are configured to requirements, therefore all units are custom designed.

Width sensor	Via optical micrometer width sensor
Fiber Width	60mm maximum (* Please consult Izumi International, Inc. if wider rages are required.
Speed	Max 10m/min (* Please consult Izumi International, Inc. if higher speeds are required.
Let Off Creel	Feedback tension controlled with tension sensor and electro-magnetic brake. Standard tension is 2.0-19.0[N] control range via 20[N] capacity tension sensor. Auto-traversing let-off maintains fiber width intact from original package.
Feed Rollers	2-7 roller systems depending on tension requirements
Take Up Winder	EKTW-C type carbon fiber take up winder for max. 250mm dia package.
Options	<ul style="list-style-type: none"> <li>• Multiple tension zones for testing fiber under different tensions: each zone is controlled by a feed roller and PID tension control</li> <li>• Polycarbonate enclosure to contain the fibers</li> <li>• Gap detections in the fiber</li> <li>• Filament breakage sensor (multiple if required)</li> <li>• Other components can be added as required.</li> </ul>
Operator Interface	PC based control system with self-standing enclosure
Data Acquisition and Controls	Data logging to Excel style spreadsheets for analyzing Control systems available: Allen Bradley or Siemens
Electrical	220VAC three phase, 400VAC three phase (* Please consult Izumi International, Inc. if other voltage is required. NEMA12 or equivalent rated enclosure.