

GRAPHTEC

# FC5100 series

Advanced Multi-functional Cutting Plotter Technology  
for Plotting, Cutting and Pouncing Applications



Window Signs

Sandblast Signs

Traffic Signs

Screen Photo Masks

Store Banners



# Introducing the new FC5100 Series

Available in 30", 42", 54" and 60" model sizes, the FC5100 Series features a maximum cutting speed of 55.7 in/s, 4.0G maximum axial acceleration, and 20 to 500g cutting force. Including all the features that make Graphtec cutting plotters so popular with sign makers, this new series comes with a wide array of helpful, user-friendly features and functions such as tangential control for precision cutting of thick material and of intricate designs as small as 1/16" high on vinyl—without lifting corners. Many optional features and accessories are also available to further enhance your productivity and versatility.

## Versatility



Vinyl Cut

Pen Plot

Pouncing

The unsurpassed versatility of the new FC5100 series is further augmented with its capability to plot, cut and pounce without your having to alter the plotter's mechanical configuration. Simply install the specific tool required for the next job and select one of the eight user-programmable settings that correspond to the type of tool as well as any other pertinent job requirements.

Note: The pouncing operation requires purchase of the optional pouncing tool.

## Connectivity

The FC5100 supports tri-port connectivity with serial, parallel and USB interface ports. The standard package includes:

- A Windows driver compatible with Windows® 98, ME, 2000, and XP; supports serial, parallel and USB port connectivity
- Adobe® Illustrator® plug-in software compatible with MAC® OS 8, 9 and X; supports USB connectivity



## Productivity and User-friendly Functions

The user-friendly control panel comes standard with a large 20-digit x 4-line LCD menu/control display and icon-labeled comprehensive controls, providing effortless operation and simple navigation of various setup menus. The oversized LCD allows users to quickly glance at all operational conditions including equipment status, speed, force, quality (acceleration) and type of tool with a pre-programmed offset value. Six commonly-used function controls including instantaneous hold (pause), cutting/plotting conditions, axis alignment, copy, test cut, and new origin are directly accessible on the control panel for added user efficiency.



Eight user-programmable settings facilitate switching among application-specific plotter setups and material selection. Each setting can be programmed with the specific type of tool (blade, pen, pouncing tool or LED beam), cutting/plotting speed, acceleration, force, tangential control and distance compensation required for a specific application. These settings provide the user with an instantaneous recall of pre-programmed setup conditions for varying job requirements, further increasing your efficiency and productivity.

The pressure-sensitive dual-speed position keys enable fast tool positioning with high accuracy. Engage the SmartFeed™ auto material pre-feed function to further enhance the FC5100's tracking capability for long length and repetitive cutting/plotting jobs. Built-in SmartFeed™ intelligence automatically unwinds the media roll and pre-feeds it for a user-programmable length when the plotting data exceeds the prepared area.

### Accuload™ media supply/alignment system

The Accuload™ media system integrates a media alignment guide to assist users in loading and aligning the media accurately for assured tracking performance. It allows effortless loading of media from a tightly wound fresh roll, manually rewound loose roll, or in cut-sheet form. The convenient cross-cutting groove provides a simple solution for obtaining a straight sheet cut-off of your finished job, making it easier than ever before!



### Axis alignment and registration of digitally-imaged material

The standard LED positioning system enables tool-free axis alignment. A registration mark sensor is optionally available for automated registration and alignment processes for enhanced positioning accuracy and productivity.

## Performance Features

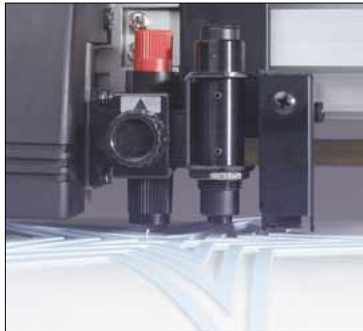
### ● Speed and power

The FC5100's top cutting speed reaches 55.7 in/s with the conditional maximum acceleration of 4.0G. This combination of speed and acceleration provides lightning-fast production of various designs with superb cutting/plotting quality—a result of our world-renowned electro-mechanical system control algorithms. The speed priority setting enhances the throughput performance for the production of large text signs, long banners and pin-stripes while the acceleration (quality) priority setting provides unsurpassed productivity for small and intricate design cutting. The overall throughput is further improved by the adoption of intelligent tool height control supported by Graphtec's proprietary, high-precision tool actuator system architecture. The selectable cutting forces ranging from 20 to 500g accommodate a wide spectrum of material from ultra-thin masking films to thick, hard reflective films.

### ● Sophisticated tangential control algorithms

When the Tangential Control mode is engaged, the FC5100 overcuts the mechanical tangential system (both in speed and output quality) by precisely and intelligently controlling the blade rotation. The on-board tool height sensor automatically detects the blade tip's landing on the material's surface, then intelligently and precisely aligns the blade rotation for the following cutting operation, all in a matter of microseconds. This sophisticated feature incorporating Graphtec's proprietary technology completely eliminates distorted, rounded, or lifted corners even when highly intricate design cutting is required on 2-mil.

vinyl film or 50-mil. sandblast rubber. This innovative and high precision system architecture integrated with Graphtec's signature technology enables the FC5100 to cut text strings as small as 1/16" on vinyl. No cutter/plotter on the market can match the new FC5100 series' unsurpassed precision and built-in intelligence.



### ● Tool Soft Landing Intelligence

Improved cutting/plotting quality and prolonged tool life are just a few of the outstanding standard features you can expect from the FC5100 series, made possible by our innovative tool Soft Landing Intelligence. The Graphtec proprietary closed-loop servo actuator with an integrated precision sensor ensures quick, precise, yet gentle tool contact with the material surface during up and down motions. In addition to ensuring superior and accurate output, the Soft Landing feature prolongs the life of the cutting/plotting tool and maximizes throughput performance. The innovative tool Soft Landing Intelligence provides not only consistent and optimum cutting quality throughout the job, but the benefit of cost-saving tool maintenance as well.



## Optional Features

A variety of optional features and accessories are available to further enhance the productivity and performance of the FC5100 series cutting plotters.

### Optional media basket

An optional media basket is available for all the FC5100 series models to facilitate dust-free cutting/plotting operations and enhanced media tracking for long, continuous project applications. The collapsible front and rear baskets keep the media off the shop floor to prevent dust and residue from accumulating on the output material. This feature is ideal when unevenness and/or obstacles are observed in the media path (on the floor) that can potentially affect the plotter's tracking performance.



### Optional stand-integrated media racks

Maintaining up to 3 extra full-length rolls conveniently at the rear of your plotter, the media rack option enhances job efficiency and productivity by allowing you to quickly switch between media rolls or directly feed material from the rack. Each optional rack holds one full-length roll of media for quick and easy roll replacement, allowing you to exchange media color, type, and size with minimal effort.



### Optional registration mark sensor\*

The optional registration mark sensor detects the registration marks printed alongside digitally produced images to automatically align preprinted images to the internal coordinate system and even compensate for material expansion/contraction. These intelligent features assure the user of unsurpassed accuracy and consistently reliable operation for the most intricate die/contour cutting applications.



\* Factory installation required.

### Second penholder option\*

An optional second penholder benefits those users who frequently switch between test plotting and cutting operations by eliminating the need for manual replacement of tools/pens.

\* Registration Mark Sensor and Second Penholder cannot be simultaneously installed.



## FC5100 Series Specifications

	FC5100-75	FC5100-100	FC5100-130	FC5100-150
Configuration	Digital servo friction feed with MicroGritroll™ drive			
Maximum cutting area	758 mm x 50 m (29.8" x 164')	1067 mm x 50 m (42" x 164')	1372 mm x 50 m (54.0" x 164')	1514 mm x 50 m (59.6" x 164')
Compatible film width	100 mm to 914 mm (3.9" to 36.0")	100 mm to 1219 mm (3.9" to 48.0")	100 mm to 1500 mm (3.9" to 59.1")	100 mm to 1600 mm (3.9" to 63.0")
Minimum film width	100 mm (3.9")*1			
Maximum cutting speed	1414 mm/s (55.7 in/s), at a 45° angle			
Maximum acceleration	4.0 G			
Programmable cutting force	20 g to 500 g in 40 steps			
Minimum character matrix	Approximately 3 mm (0.12") high*5			
Mechanical resolution	0.005 mm (0.0002")			
Programmable resolution	GP-GL™ : 0.1/0.05/0.025/0.01 mm HP-GL® : 0.025 mm (0.001")			
Guaranteed accuracy cutting length*2	10 m guaranteed ; maximum cutting length is 50 m			
Distance accuracy	0.1 mm or 0.1%, whichever is greater			
Perpendicularity	0.5/580 mm or better   1.5/1000 mm or better			
Repeatability*2	0.1mm/2m (0.0039"/80") travel or better			
Number of tools mountable	1 (cutter pen, plotting pen, or pouncing tool) ; 2 tools can be mounted if the optional second penholder is installed			
Blade types	Supersteel, (0.9 mm and 1.5 mm), ceramic (1.5 mm) and sapphire (1.5 mm)			
Pen types	Water-/oil-based fibertip, water-/oil-based ballpoint, ceramic-tip			
Film types	Self-adhesive vinyl film, fluorescent film, reflective film, Amberlith™, Rubylith™, sandblast resist rubber			
Pouncing function	Requires optional pouncing tool (tool diameter is 1.2 mm)			
Pouncing media	Plain paper, 0.06 mm to 0.13 mm thick			
Interfaces	RS-232C serial, IEEE-1284 parallel (auto recognition), USB 1.1			
Data buffer	2 MB			
Command sets	GP-GL™/HP-GL®, (control-panel selectable)			
Number of preset condition groups	8 groups, user-specifiable			
Control menu and status display	20 digits by 4 lines LCD with comprehensive icon-corresponding soft keys			
Axis alignment	Standard LED beam positioning system (using Light Pointer) or optional precision registration mark sensor for registration of a pre-printed digital image			
Media supply mechanism	Integrated Accuload™ media supply system Optional media rack for simultaneously holding up to 3 rolls of media (FC5100-75 requires optional floor stand)			
Media pre-feed	Standard (built-in SmartFeed™ function automatically unwinds and pre-feeds media for an operator-specified distance upon self-recognition of plot file length			
Floor stand	Optional	Standard		
Power requirements	100 to 240 VAC, 50/60 Hz (auto switching)			
Power consumption	140 VA max.			
Operating environment	10 to 35°C (50 to 95°F), 35 to 75% RH (non-condensing)			
Guaranteed accuracy environment	16 to 32°C (60 to 90°F), 35 to 70% RH (non-condensing)			
Dimensions (W x D x H)	1135 x 485 x 351 mm (44.7" x 19.1" x 13.8")	1440 x 715 x 1175 mm (56.7" x 28.1" x 46.3")*3	1703 x 715 x 1175 mm (67" x 28.1" x 46.3")	1860 x 715 x 1175 mm (73.2" x 28.1" x 46.3")
Weight (approx.)	29 kg (64 lbs)	51 kg (112 lbs) including stand	56 kg (123 lbs) including stand	58 kg (128 lbs) including stand
Certifications	CE mark, FCC, VCCI, TUV, CSA, UL			

## Accessories and Options

Options	Second Penholder (for plotting pen)*4 ; Registration Mark Sensor*4 ; Stand for FC5100-75 (standard for the other models) ; Media Catch Basket; Additional Media Rack; Pouncing Tool
Standard accessories	User Guide CD-ROM (including User's Manual, Windows 98/ME/2000/XP Driver; Adobe Illustrator Plug-in Software for Mac); Power Cord; PHP32-CB09N Blade Holder; CB09UA-2 Cutter Blades; Water-based Black Fiber-tip Pen, Floor Stand (FC5100-100, FC5100-130, FC5100-150)
Other accessories	PHP61-Loupe for manual registration/axis alignment when the Registration Mark Sensor option is installed

\*1 Subject to media setting conditions

\*2 When using the optional media basket and Graphtec-specified media and cutting conditions

\*3 Height is 1118 mm for models shipped to Korea

\*4 •The second penholder cannot be used concurrently with the registration mark sensor.

•The light pointer cannot be used concurrently with the registration mark sensor.

•The second penholder and the light pointer can be used concurrently.

\*5 For characters smaller than 10 mm, please use the CB15UB blade.

\* HP-GL™ are registered trademarks of Hewlett-Packard Company in the US.

\* Windows is a registered trademark of Microsoft Corporation in the US and other countries.

\* Other company names and product names are trademarks or registered trademarks of their respective owners.

\* Specifications are subject to change without notice.



### To ensure safe and correct use of this product:

- Read the instruction manual thoroughly before use.
- Ground the product properly to prevent electric shock due to current leakage, and always use with the correct power supply voltage indicated.

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