

Graphtec FCX2000-60VC 24" x 36" Flatbed Vinyl Cutter and Plotter

Instruction Manual



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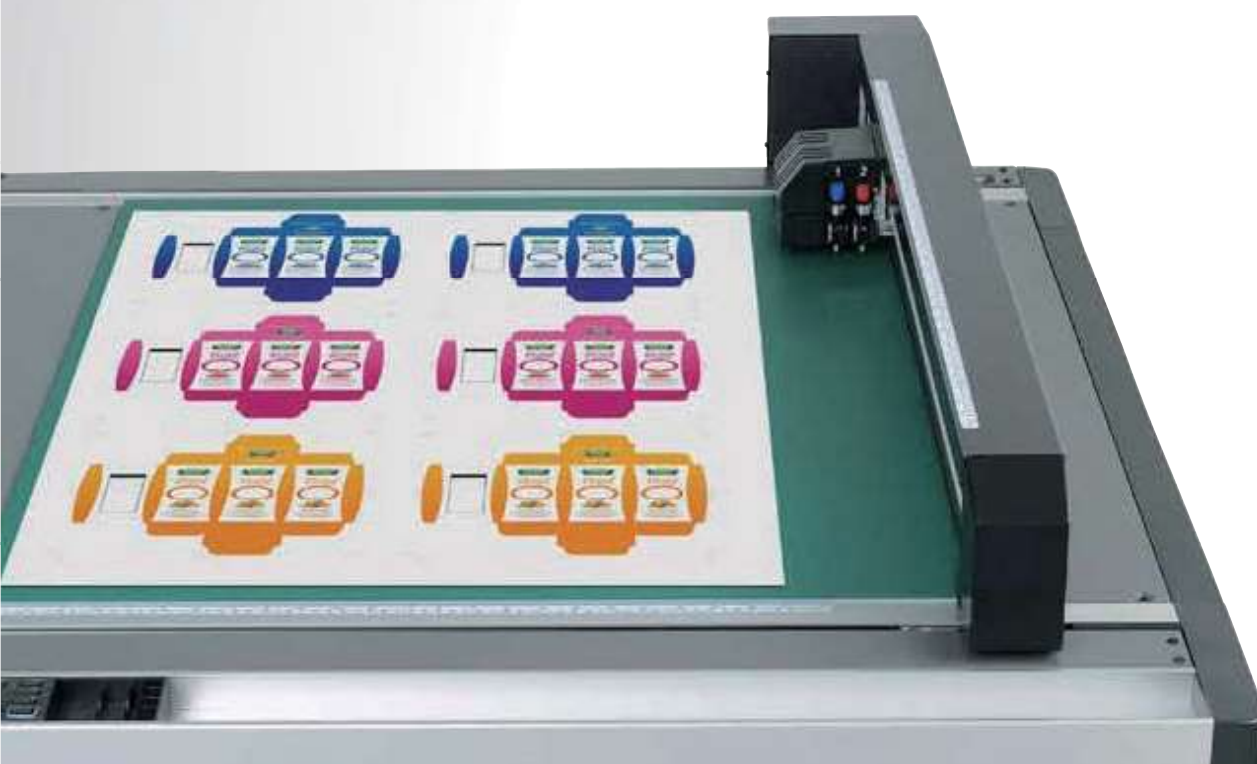
GRAPHTEC

Flatbed Cutting Plotters

FCX2000 & FCX4000 SERIES

Work Smarter, Not Harder.

The Graphtec FCX Series is the ultimate solution for prototyping and small production runs of rigid materials without the use of a cutting die. Reduce media waste / processing time with Graphtec's precision cutting and dedicated software. Added offline (USB) operation enables users of all skill levels to easily process materials.



*FCX2000-60VC shown.

Advanced model with wide variety of tools and highest performance

FCX2000 Series



Desktop model offering high performance and cutting speeds up to 750 mm/s

FCX4000 Series



Max. force
9.8N
(1 kgf)

Speed
400
mm/s

610, 1200, 1800mm width table sizes with choice of vacuum suction, or electrostatic media hold-down methods depending on application.

Max. force
5.88N
(600 gf)

Speed
750
mm/s

The effective cutting area of the 50ES model is expanded for supporting 2 sheets of A3+ size, and the 60ES model supports 4 sheets of A3+ size. It is more suitable in the use of post-processing of Print On Demand.

FCX2000-60VC

FCX2000-120VC

FCX2000-180VC

FCX2000-120ES

(* FCX2000-120 ES is available in limited region.)

FCX4000-50ES

FCX4000-60ES

www.graphteccorp.com

Expanded industrial applications

Precision cutting is achieved by enhancements to the rigidity of the moving mechanism that reduces deflection due to pressure during cutting. This has enabled new functions such as curved creasing / scoring lines. Graphtec flatbed cutting plotters meet the wide variety of applications used in prototyping and short production runs of packaging and industrial materials.

*I FCX2000 Series only. Cutting accuracy is not guaranteed.



Packaging
Cardboard (up to E flute :1.5 mm)*I



Packaging / POP
Heavy paper



Sticker
Seal / Magnet sheet



Sandblasting
Sandblast resist rubber

Enhanced functions for higher productivity and work efficiency

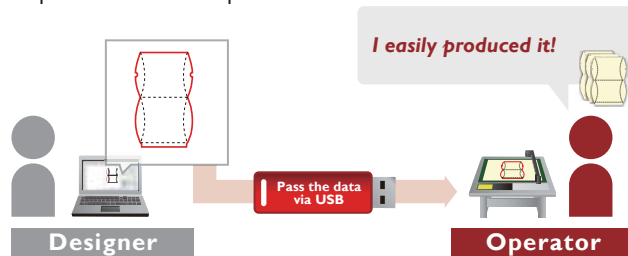
■ Offline operation supported by use of USB flash memory

Supported Software

- Cutting Master 4
- Graphtec Pro Studio
- Graphtec Pro Studio Plus

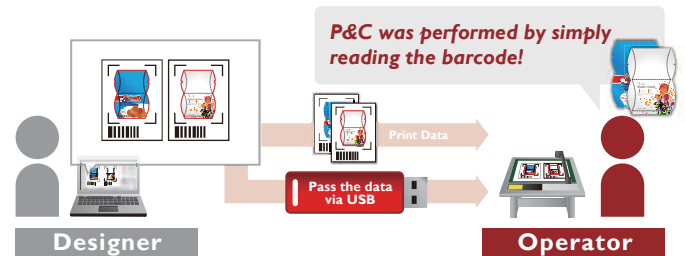
Offline operation using USB flash memory

Plot data is created from the design by using Cutting Master 4 or Graphtec Pro Studio, then the data is saved to USB flash memory. The plot data file can be selected from the USB by menu operation on the plotter, then cutting is performed. This simplified workflow enables users to operate without a computer.



Data management using barcode function with USB flash memory

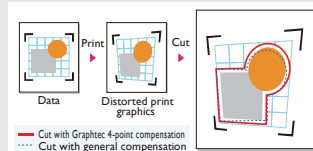
In Print & Cut operation, the cutting data is automatically selected from USB flash memory by scanning the barcode printed on the media then performs contour cutting. This prevents the usage of incorrect data, and improves work efficiency.



■ Enhanced ARMS (Advanced Registration Mark Sensing system) for improved productivity of P&C applications

Four-point compensation - Precise cutting even of distorted printed graphics

This feature compensates for any skewing or distortion in printed graphics to ensure precise contour cutting.



Reverse side Cutting/Creasing using ARMS

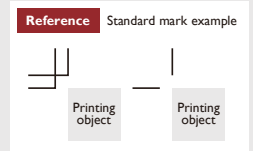
Cutting and creasing of printed graphics is possible even on the reverse side of the media. This prevents any scratches or damage to the printed graphic. On the FCX Series, operation is simple using Cutting Master 4 or Graphtec Pro Studio.

Automatic ARMS Sensitivity Adjustment

Marks are detectable when there is reasonable contrast against the background. For example, a white mark on a colored background.

Supported by standard crop marks - special marks are not required for cutting

P&C is performed by printing the industry standard crop marks. Adding special marks with Graphtec software is not necessary. Operation is simple when crop mark information is entered within Cutting Master 4 software.



ARMS Copy function

After data is sent the first time, it can be copied multiple times without a PC. In the FCX Series, the first four marks are scanned on the first sheet, and only the first mark in subsequent sheets. This improves productivity by shortening scan detection time.

Expanded cutting area

This function expands the cutting area to include objects outside of the area enclosed by registration marks. Production efficiency is enhanced by reducing media waste.

Flatbed Cutting Plotters

FCX2000 Series & FCX4000 Series



Improved application software

The cutting plotter is ready for use with the supported software, with other advanced features available via plug-ins and optional software.

plug-in
software

Cutting Master 4

Win | Mac

Cutting Master 4 is Graphtec plug-in software for Adobe Illustrator and CorelDRAW Graphics Suite. It sends cut data to the plotter and includes a variety of functions such as: preview, registration mark creation, tool conditions, cut job settings and more. Cutting Master 4 is easy to use and enables you to get the best performance from your plotter.



Graphics
design software

Graphtec Pro Studio

Win

Easy-to-use application software for creating original designs. It has enhanced functions such as auto-shapes, shading, and editing functions. It can also configure the cutting conditions and other settings on the plotter. Importing of EPS, Ai*, CMX*, and PDF* file types are supported. Graphics created with other popular design software can be imported into the software.



* It is available on the Graphtec Pro Studio.

For MAC OS user

Included **Graphtec Studio**

Advanced software

Option **Graphtec Pro Studio Plus**

Graphtec Pro Studio Plus is the enhanced edition of Graphtec Pro Studio. It is optional software with functions for improving productivity and advanced design. Additional functions include: transformation of characters and graphics, automatic sequence number insertion, barcode creation, templates for rhinestone creation, nesting, directional change of cutting lines, changing cutting order, and more.

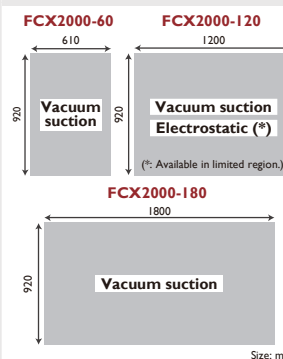


NEW LINEUP **Limited Edition Software**

- Graphtec Pro Studio Plus for Rhinestone
- Graphtec Pro Studio Plus for Auto Nesting

Table size and Media hold-down method

FCX2000 Series



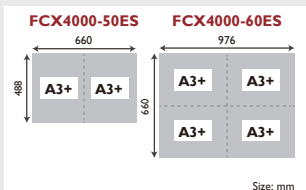
Vacuum suction system

Holds media using external pump (blower). This option is most suitable for heavy or thicker materials.

Electrostatic adsorption system

Holds media by electrostatic that is generated by electrodes arranged inside the panel. This option is most suitable for cutting light weight materials.

FCX4000 Series



Electrostatic adsorption system

In the FCX4000, assuming use in offices and small shop, The electrostatic adsorption system is adopted for both model, which makes less noise than other method such as vacuum suction system during the operation.

Cling mat system

Further, By using the optional cling mat, it is also possible to cut media that can not be securely fixed by the electrostatic adsorption system.

Provided tools suitable for many applications

Creasing / scoring tool

PM-CT-002 is a new tool. This reduces peeling and cracking on the printed surface during the creasing/scoring process compared to our existing models.

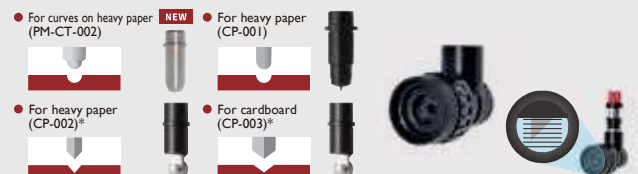
* For FCX2000 Series

- For curves on heavy paper (PM-CT-002)
- For heavy paper (CP-001)

- For heavy paper (CP-002)*
- For cardboard (CP-003)*

Loupe for cutting blade

The Loupe is a standard accessory used to easily adjust extruded blade length with the PHP33 and PHP35 blade holders.



Specifications						
Model name	FCX2000-60VC	FCX2000-120VC	FCX2000-180VC	FCX2000-120ES (*1)	FCX4000-50ES	FCX4000-60ES
Configuration	Digital servo system, Flatbed					
Media hold-down method	Vacuum suction			Electrostatic panel	Electrostatic panel	
Effective cutting area	610 mm x 920 mm	1,200 mm x 920 mm	1,800 mm x 920 mm	1,200 mm x 920 mm	660mm×488mm	976mm×660mm
Mountable media (Y-axis)	950 mm				536 mm (21.1 inch)	708 mm (27.9 inch)
Roll media support	Roll media stocker (manual feeding), supported media; width: up to 950 mm, weight: up to 5 kg				N/A	
Maximum cutting speed	400 mm/s (1 to 40 cm/s in 16 steps), in all directions				750mm/s	
Cutting force	Tool 1: Max. 4.9 N (500 gf), Tool 2: Max. 9.8 N (1 kgf)				Tool 1:Max. 5.88 N (600 gf), Tool 2:Max. 5.88 N (600 gf)	
Cutting force settings	Tool 1: in 40 steps, Tool 2: in 40 steps				Tool 1: in 48 steps, Tool 2: in 48 steps	
Minimum character size	Approx. 10 mm square (varies with character font and media)					
Programmable resolution	GP-GL mode: 0.1/0.05/0.025/0.01 mm, HP-GL™: 0.025 mm					
Distance accuracy	Max. 0.1% of the distance moved or 0.1 mm, whichever is larger (in plotting mode) (*2)				Max.0.2% of the distance moved or 0.1mm, whichever is larger	
Perpendicularity	Max 0.5 mm / 900 mm (in plotting mode)				Max 0.3 mm / 430 mm	
Repeatability	Max 0.1 mm (excluding contraction of media, in plotting/cutting mode) (*2)				Max 0.4 mm / 610 mm	
Standard interfaces	USB2.0 / RS-232C / Ethernet(10BASE-T/100BASE-TX)					
Buffer memory	2 MB					
Command sets	GP-GL and HP-GL™ emulation (set by menu, or selects automatically by received data)					
Number of tools	2 tools					
Cutting blade, pen, and tool types	Cutting blade (supersteel), Pens (Water-based fiber-tip pen, oil-based ballpoint pen), and Creasing/scoring tool					
Others	ARMS, Reverse side Cutting/Creasing using ARMS, ARMS Copy function, Creasing, Cutting/creasing in multiple passes,USB Off line, Bar-code					
Power source	100 to 240 V AC, 50/60 Hz (Auto switching)					
Power consumption	Max. 140 VA				Max. 120 VA	
Operating environment	Temperature: +10 to +35 °C, Humidity: 35% to 75% RH (non-condensing)					
Guaranteed accuracy environment	Temperature: +16 to +32 °C, Humidity: 35% to 70% RH (non-condensing)					
External dimensions	1344 x 1409 x 930 mm	1934 x 1409 x 930 mm	2534 x 1409 x 930 mm	1934 x 1409 x 930 mm	1089 x 897 x 204 mm	1405 x 1069 x 204 mm
[W x D x H] (Approx.)	(Including stand)	(Including stand)	(Including stand)	(Including stand)		(1405 x 1097 x 895 mm including stand)
Weight (Approx.)	76 kg (Including stand) (*3)	99 kg (Including stand) (*3)	116 kg (Including stand) (*3)	93 kg (Including stand)	29kg	38kg (including stand : 55kg)
Compatible OS (*4)	Windows 10 / 8.1 / 8 / 7, Mac OS X 10.6 to macOS 10.14 (Graphtec Studio : 10.6-10.14, Cutting Master 4 : 10.7-10.14)					
Supported software (*5)	Standard	Graphtec Pro Studio(Win), Graphtec Studio(Mac), Cutting Master4(Win/Mac)				
	Optional	Graphtec Pro Studio Plus (Win), Graphtec Pro Studio Plus for Rhinestone (Win), Graphtec Pro Studio Plus for Auto Nesting (Win)				
Compatible Standards	Safety	UL/cUL, CE marking				
	EMC	FCC Class A , CE marking, VCCI Class A				

Media type ○ : Available			FCX2000 Series				FCX4000 Series	
Type of media	Thickness	Support cutting blade	60VC	120VC	180VC	120ES	50ES	60ES
Self-adhesive marking film (vinyl, fluorescent, reflective)	up to 0.25 mm	CB09UB, CB09-P	○	○	○	○	○	○
Heavy paper/board (pattern paper, oil board)	up to 0.5 mm	CB15U, CB15U-K30	○	○	○	○	○	○
	up to 1.0 mm	CB30UC	○	○	○	○	○	○
Compressed foam sheet	up to 0.8 mm	CB15U-K30	○	○	○	○	○	○
Sandblast resist rubber	up to 1.0 mm	CB15U-K30	○	○	○	○	○	○
	up to 1.5 mm	CB30UC (*6)	○	○	○	○	○	○
Cardboard	E flute	CB15U-K30	○	○	○	○	○	○
	F/G flute	CB30UC	○	○	○	○	○	○
Rubber sheet	up to 2.0 mm	PM-CB-001 (*6)	○	○	○	○	○	○
Clear sheet for plastic boxes	up to 1.0 mm	CB15U	○	○	○	○	○	○
	up to 0.5 mm	CB15U-K30	○	○	○	○	○	○
High-intensity reflective film	up to 1.0 mm	CB15UA	○	○	○	○	○	○
	up to 0.5 mm	CB15UA-K30	○	○	○	○	○	○

Supplies ○ : Available					
Item	Part number	FCX2000 Series	FCX4000 Series	Description	Package
Cutting blade holder	PHP33-CB09N-HS	○	○	For CB09U series blade	1 set / pack
	PHP33-CB15N-HS	○	○	For CB15U series blade	1 set / pack
	PHP35-CB09-HS	○	○	For CB09U series blade	1 set / pack
	PHP35-CB15-HS	○	○	For CB15U series blade	1 set / pack
	PM-CH-001	○		For CB30UC / PM-CB-001 cutting blade	1 set / pack
Cutting blade	CB09-P	○	○	0.9mm dia. 45°, Supersteel	5 blades / pack
	CB09UB-5	○	○	0.9mm dia. 45°, Supersteel	5 blades / pack
	CB09UB-K60-5	○	○	0.9mm dia. 60°, for thin film	5 blades / pack
	CB15U-5	○	○	1.5mm dia. 45°, for thick film	5 blades / pack
	CB15U-K30-5	○	○	1.5mm dia. 30°, for sandblast resist rubber	5 blades / pack
	CB15UA-5	○	○	1.5mm dia. 45°, for high intensity reflective film	5 blades / pack
	CB15UA-K30-5	○	○	3.0mm dia. 30°, for high intensity reflective film	5 blades / pack
	CB30UC-1 (*6)	○		3.0mm dia. 45°, for cardboard (E flute)	1 blade / pack
	PM-CB-001 (*6)	○		3.0mm dia. 30°, for rubber sheet	2 blades / pack
	Loupe	PM-CT-001	○	○	Checking blade length, for PHP33 and PHP35 series
Creasing/	CP-001	○	○	Stick type, for heavy paper	1 set / pack
	Scoring tool	CP-002	○	○	Roller type (R0.2), for heavy paper
CP-003		○	○	Roller type (R0.6), for cardboard	1 set / pack
PM-CT-002		○	○	Ball on tip of stick, for heavy paper	1 set / pack
Fiber-tip pen, pen holder	KF700-BK	○	○	Water-based fiber-tip pen, Black	10 pens / pack
	KF700-RD	○	○	Water-based fiber-tip pen, Red	10 pens / pack
	PHP31-FIBER	○	○	Pen holder for KF700 series pen	1 set / pack
Adhesive sheet, Cling mat	CM-0003-R1A	○	○	Adhesive sheet, supplying in roll (size 545 mm x 20 m)	1 roll / pack
	CM-0004	○	○	Cling mat for film based materials, size 435 x 610 mm	2 sheets / pack
	CM-0005	○	○	Cling mat for paper based materials, size 435 x 610 mm	2 sheets / pack
	PM-CM-001	○	○	Cling mat for film based type material, size 660 mm x 488 mm	2 sheets / pack
	PM-CM-002	○	○	Cling mat for paper based type material, size 660 mm x 488 mm	2 sheets / pack
Protect Sheet	PM-CR-002		○	For FCX4000-50ES. Transparent vinyl, thickness 0.3 mm.	1 sheet / pack
	PM-CR-003		○	For FCX4000-60ES. Transparent vinyl, thickness 0.3 mm.	1 sheet / pack
	PM-CR-004	○		For FCX2000-120ES. Transparent vinyl, thickness 0.3 mm.	1 sheet / pack

*1 Available in a limited region. Please contact your local representative of Graphtec. *2 When operated with Graphtec specified media and conditions.
*3 Pump (blower) for vacuum suction media hold-down system is not included.
*4 Please check the website or contact your local representative of Graphtec.
Graphtec does not support software/driver used with operating systems that have become obsolete and are no longer supported by the OS developer. In the Windows 7, edition of Ultimate, Enterprise, Professional and Home Premium are supported.
*5 The software can be used by downloading from Graphtec website. *6 Cutting accuracy is not guaranteed. Be sure to try it before use it. *7 Factory installed option. *8 For requests of installing a Warning Light on your FCX2000, please contact local representative of us.

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• Items mentioned are subject to change without notice. For more information about product, please check the web site or contact your local representative.



For using equipment in correctly and safely

- Before using it, please read the user manual and then please use it properly in accordance with the description.
- To avoid an occurrence of malfunction or an electric shock by leakage, please ensure ground connection and use it in specified power source.

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