GRAPHTEC

SHY 华颜数码
Huayan Digital

Flatbet Cutting Plotters
FC4500 series / FC2250 series

Suitable for prototyping or small production runs in rigid materials

| Packaging | POP | Sticker | Sign | Pattern Stencil | Sandblast rubber | Industrial goods |

NEW

FC4500 series

Max. 750 mm/S cutting speed for high performance and productivity from your desk-top model

FC4510-60
860x600mm, Adhesive sheet/mat

Max. pressure 600gf, speed 750mm/sec

Cutting Master 2

FC2250 series

Advanced model has wide tooling lineup and higher performance

FC2250-60VC
610x920mm, Vacuum suction

FC2250-120VC
1200x920mm, Vacuum suction

Max. pressure 1kgf, speed 400mm/sec

Cutting Master 2   D-cut Master

http://www.graphteccorp.com

Flatbed Cutting Plotters are used for a wide range of industrial applications and processes

Has a good selection of tools so suitable for various processes

Precise control of contour cut, half cut, perforated cut, and plotting.
Ideal for creating samples or small production runs.

Suitable for print and cut using ARMS

Equipped the ARMS (Advanced Registration Mark Sensing system). Easy and accurate cutting
of pre-printed images using Cutting Master 2. Enables higher productivity of POP, stickers, and prototype cartons.
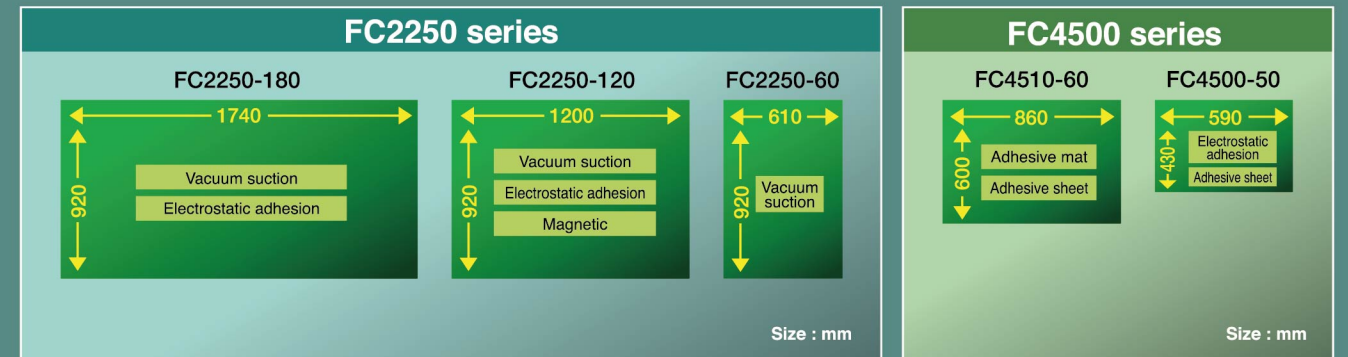
Work with harder, thicker, and thinner materials

Suitable for PET (polyethylene terephthalate), Polyamide, Stiff paper, Cardboard, Microflute board,
or Industrial materials with precise adjustable cut pressure up to 1kgf. (Max. 600gf in FC4500/FC4510)

A range of models with several table sizes and media hold-down methods

Five table size. A choice of media hold-down systems including Vacuum suction, Electrostatic adhesion,
Magnetic, or Adhesive sheet/mat suitable for many different applications.
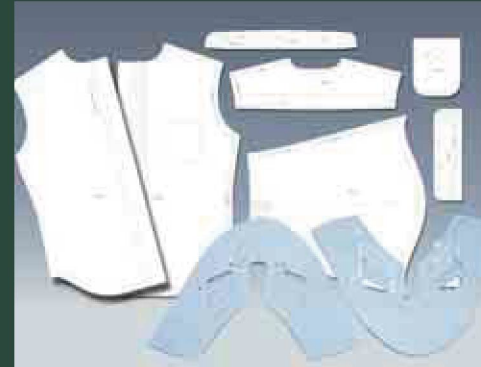
Table size and Media hold-down method

FC2250 series

FC2250-180	FC2250-120	FC2250-60
1740 / 920	1200 / 920	610 / 920
Vacuum suction / Electrostatic adhesion	Vacuum suction / Electrostatic adhesion / Magnetic	Vacuum suction

Size : mm

FC4500 series

FC4510-60	FC4500-50
860 / 600	590 / 430
Adhesive mat / Adhesive sheet	Electrostatic adhesion / Adhesive sheet

Size : mm
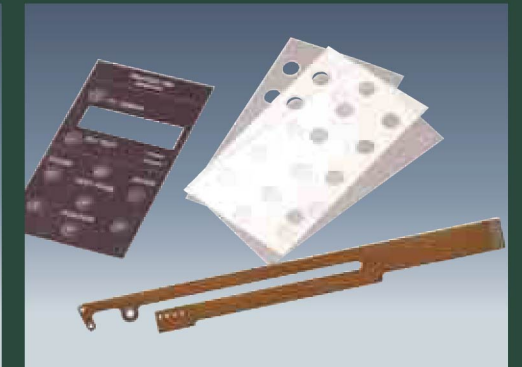
Packaging

Sticker

Sign, Stencil, Traffic Sign

Garment, Shoes

Monument

Industrial Goods

Enhanced functions for higher productivity

Repeated cutting function

This function enables multi pass cutting to be performed on a medium that cannot be cut with a single cutting operation.
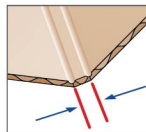
2-Tool holders for easy selection

Two tools can be mounted at the same time for easy switching. If the cutter blade and the creasing tool are mounted at the same time, cutting and scoring operations are performed automatically for higher productivity.
Note: The second tool is held by magnetic force on the FC4500-50 so the choice of tool is limited.

Simple creasing function

A simple function to create fold lines for clean folding on micro-flute and cardboard has been enabled.

- **Up to three fold lines can be selected.**
- **If two or three fold lines have been selected, the spacing between the lines can also be specified.**
- **Repeated creasing operations can also be specified for each of the lines.**

How to determine the number of crasing lines
- Single-line : Substrates up to 0.1 mm thick
- Double-line : Paperboard 0.1 to 0.5 mm thick
- Triple-line : Rigid cardboard 0.3 to 0.5 mm thick

The spacing between the two lines indicated by the arrows should be approximately equal to the thickness of the substrate.

However, the type of substrate being scored and the temperature and humidity of the working environment can all affect the ideal value. Please adjust the settings to suit your own conditions.

Advanced reverse-side cutting / creasing function

Cutting and creasing can be carried out from reverse-side when using the registration marks. This prevents crease line from appearing on the printed surface.
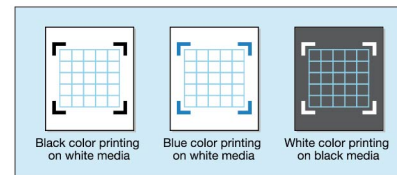
Tangential emulation

Graphtec's proprietary tangential emulation provides precise and clean cutting even on thicker material, ensuring sharp edges and corners.

Advanced Registration Mark Sensing system (ARMS)

New function

Sensitivity UP
Automatic ARMS sensitivity adjustment

The sensitivity of the Mark sensor can be adjusted to match the cutting media, it enables the use of various colors of media & registration marks.
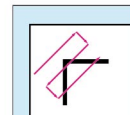
Black color printing on white media

Blue color printing on white media

White color printing on black media

*Various combination of colors may not be able to read.

ORIGINAL

Areal
Segment area compensation

The intermediate registration marks in the X-axis direction allow four-point correction for each individual segment area. This enables precise positioning over the whole area of prints that may have skewed during the printing process.
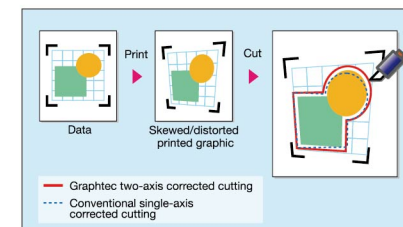
auto
Automatic registration mark detection

The first registration mark is detected automatically, eliminating the need to move the head to the registration mark manually. Should registration marks not be found at the first attempt they are automatically re-detected, thus saving the time of starting over.

ORIGINAL

4
Four-point registration mark (two-axis skew) correction

Four-point registration mark sensing and X/Y-axis correction uses high-precision positioning to ensure accurate cutting of graphics that have been skewed or deformed during printed.

Print / Cut

Data

Skewed/distorted printed graphic

— Graphtec two-axis corrected cutting
---- Conventional single-axis corrected cutting

Multi
Multiple registration mark set detection

The cutting data and layout information are sent for designs printed in multiple copies, enabling continuous detection of registration marks for cutting. This feature is essential when high accuracy cutting is required.
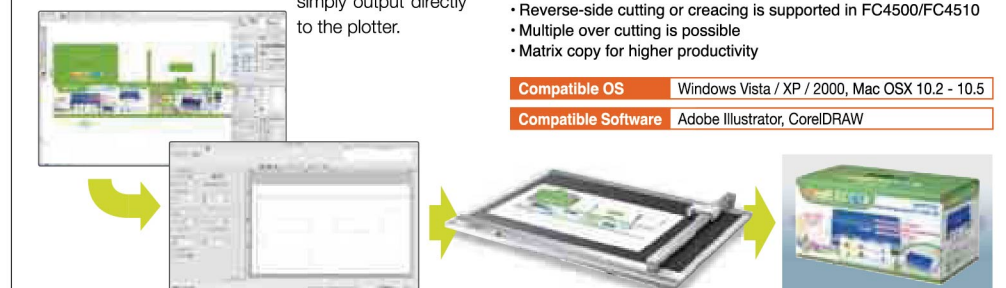
Q
Supports registration mark commands

Registration mark commands are provided to control ARMS functions from software.

- **Cutting Master 2**

Cutting Master 2

This plug-in software allows direct cutting from graphics applications. For higher productivity, create graphics or text in Adobe Illustrator or CorelDraw, then simply output directly to the plotter.

Main Features
- Possible to check the cutting lines by preview window
- Centering, Rotate, Mirror for easy layout
- Outlines for characters are created automatically
- Output by layer / color
- Auto-welding for binding same color of shapes
- Tiling / Paneling for segmentation of cutting
- ARMS can be controlled by software
- Reverse-side cutting or creasing is supported in FC4500/FC4510
- Multiple over cutting is possible
- Matrix copy for higher productivity

Compatible OS	Windows Vista / XP / 2000, Mac OSX 10.2 - 10.5
Compatible Software	Adobe Illustrator, CorelDRAW

Versatile software D-Cut Master

D-cut Master is an option in FC4500 and FC4510.

This software reads a DXF file in the AutoCAD R13 format and then enables data display, deleting, sorting, changing of the output order, specification of output setting, and saving functions as well as creation of GP-GL plot data and output to a plotter.

Main functions
- The Cutting Simulation function enables checking of the cut sequence, changing of the cut sequence, and tiled cutting prior to actual output.
- Output in separate layers or separate colors can be specified.
- Output conditions can be selected by layer name or color.
- Matrix Copy function
- Any drawing exceeding the plotter's Valid Area can be output in multiple pages using the Tiling function.
- Supports a sorting function to minimize tool movement.
- The Weed Border cutting function enables automatic output of a border to facilitate weeding of the cut media.
- Output conditions can be managed by media name.

Compatible OS	Windows Vista / XP / 2000

Specifications

Model name	FC4510-60		FC2250-60VC		FC2250-120VC		
Configuration	Digital servo system, Flatbed						
Media hold-down method	Electrostatic adhesion or Adhesive sheet	Adhesive mat or Adhesive sheet	Vacuum suction	Magnetic	Electrostatic adhesion	Vacuum suction	Electrostatic adhesion
Effective cutting area	590 x 430 mm (23.2 x 16.9 inch)	860 x 600 mm (33.8 x 23.6 inch)	610 x 920 mm (24.0 x 36.0 inch)	1200 x 920 mm (47.2 x 36.0 inch)			
Mountable media	500 mm (19.6 inch) (Y-axis direction)	666 mm (26.2 inch) (Y-axis direction)	1010 mm (43.3 inch) (Y-axis direction)				
Media type	Marking film (vinyl, fluorescent, and reflective) Stiff paper/card (for stencils, etc.) up to 0.5 mm thick Polystyrene foam sheets up to 0.8 mm thick Sandblast rubber sheets up to 1.0 mm thick Microflute board (F/G grades) Clear sheets for plastic boxes High-intensity reflective film		Marking film (vinyl, fluorescent, and reflective) Stiff paper/card (for stencils, etc.) up to 1.0 mm thick Polystyrene foam sheets Sandblast rubber sheets up to 1.0 mm thick Microflute board (F/G grades) Clear sheets for plastic boxes High-intensity reflective film				
Maximum cutting speed	750 mm/s (30 inch/s) (1 to 75 cm/s in 23 steps)		400 mm/s (16 inch/s) (1 to 40 cm/second in 40 steps)				
Cutting pressure	Tool 1: Max. 5.88 N (600 gf), in 48 steps Tool 2: Max. 2.94 N (300 gf), in 30 steps	Tool 1, Tool 2: Max. 5.88 N (600 gf), in 48 steps	Tool 1: Max. 4.9N (500 gf), in 40 steps Tool 2: Max. 9.8N (1 kgf), in 40 steps				
Minimum character size	approx. 5 mm square (varies with the character font and media)		approx. 10 mm square (varies with the character font and media)				
Mechanical resolution	0.005 mm (5μm)		0.0025 mm (2.5μm)				
Programmable resolution	GP-GL mode: 0.1/0.05/0.025/0.01 mm, HP-GL™ : 0.025 mm						
Distance accuracy	Max 0.2% of the distance moved or 0.1 mm, whichever is lager		Max. 0.1% of the distance moved or 0.1 mm, whichever is lager				
Perpendicularity	Max 0.3 mm / 430 mm	Max 0.4 mm / 610 mm	Max. 0.5 mm / 900 mm				
Repeatability	Max 0.1 mm •						
Standard interfaces	RS-232C, USB2.0 (Full speed)						
Buffer memory	2 Mbyte						
Command sets	GP-GL and HP-GL™ emulation (selected by menu)						
Number of tools	2 tools						
Cutter blade, pen, and tool types	Cutter blade: supersteel Pens: Water-based fiber-tip pen, oil-based ballpoint pen Creasing/scoring tool		Cutter blade: supersteel Pens: Water-based fiber-tip pen, oil-based ballpoint pen, disposable ink Creasing/scoring tool				
Others	ARMS (Advanced Registration Mark Sensing System), Reverse-side cutting and creasing with ARMS, Copy function, Creasing function, Repeatedly cut function						
Power supply	100 to 240 VAC, 50/60 Hz (Auto switching)						
Power consumption	Max. 120 VA						
Operating environment	Temperature: +10 to +35 degree C (44 to 95 degree F) , Humidity: 35 to 75% RH (non-condensing)						
Guaranteed accuracy environment	Temperature: +16 to +32 degree C (55 to 90 degree F), Humidity: 35% to 70% RH (non-condensing)						
External dimensions (W x D x H) *8	857 x 780 x 200 mm (33.7 x 30.7 x 7.9 inch)		1172 x 962 x 200 mm (46.1 x 37.9 x 7.9 inch)		920 x 1285 x 857mm (36.2 x 50.6 x 33.7 inch)		
Weight	approx. 19 kg (42 lbs.)	approx. 27 kg (60 lbs.)	approx. 58 kg (128 lbs.)				
Compatible OS	Windows 2000 / Windows XP / Windows Vista, Macintosh OS10.2-10.5						
Certifications	UL , cUL , CE making, FCC-A, EN55022-A, RoHS						

Standard accessories

	item	Description	Q'ty
FC4510 SERIES	Power cable		1 pc
	Cutter plunger	PHP32-CB15N-HS	1 pc
	Cutter Blade	CB15U-2 (2 blades/pack)	1 pack
	Water based fiber-tip pen	KF552-BK, Black (1 pen/pack)	1 pack
	Creasing tool	CP-001, For FC4510-60 only	1 pc
	Adhesive mat	CM-0002 (2 sheets/set), For FC4510-60 only	1 set
	Adhesive sheet	CM-0003 (2 sheets/set)	1 set
	Media positioning plate		2 pcs
	USB CABLE (2.9 m)	CBL1112ACL2-2.9M	1 pc
	CD-ROM	User's manual, Windows Driver , Cutting Master 2	1 pc
	Quick Start Guide		1 pc
	Usage Precautions		1 pc
FC2250 SERIES	Power cable		1 pc
	Cutter plunger	PHP31-CB15B-HS	1 pc
	Cutter Blade	CB15U-SP (2 blades), CB15U-K30-SP (5 blades)	1 set
	Water based fiber-tip pen	KF552-BK, Black (1 pen/pack)	1 pack
	Sheet holder plates	For MG models only (2 long, 2 medium, 4 short)	1 set
	Hexagon key wrench	For M4 cap screw	1 pc
	Height adjustment plates	10 mm, 4 mm hight	1 each
	Durable flexible hose	For VC models only, 1.5 to 5 m (can extend/contract) Conection bore diameter: 38mm (for 60), 50mm (for 120/180)	1 pc
	Hose clamp	For VC models only, 38mm (for 60), 50mm (for 120/180)	2 pcs
	Vacuum pump mounting base	For VC models only	1 pc
	USB cable (2.9 m)	CBL1112-2.9M	1 pc
	CD-ROM	User's manual, Windows driver, Cutting Master 2, D-Cut Master	1 pc

Option

item	Description
ST0032	Stand for FC4510-60
OPS639	D-Cut Master, for FC4500/FC4510

Supply

item	Model	FC4500/ FC4510	FC2250 series	Contents	Q'ty
Cutter plunger	PHP32-CB09N-HS	○	○	Plunger used with 0.9mm diameter cutter blades (CB09UA)	1 pc/pack
	PHP32-CB15N-HS	○	○	Plunger used with 1.5mm diameter cutter blades, built in spring (CB15U, CB15UA, CB15UB, CB15U-K30, CB15UA-K30)	1 pc/pack
	PHP31-CB09-HS	○	○	Plunger used with 0.9mm diameter cutter blades (CB09UA)	1 pc/pack
	PHP31-CB15-HS	○	○	Plunger used with 1.5mm diameter cutter blades, comes with one tube of grease (CB15U, CB15UA, CB15UB, CB15U-K30, CB15UA-K30)	1 pc/pack
	PHP31-CB15B-HS	○	○	Plunger used with 1.5mm diameter cutter blades (CB15U-SP,CB15U-K30-SP, CB15U-K20-SP)	1 pc/pack
	PHP34-CB30-HS		○	Plunger used with 3.0mm diameter cutter blade (CB30UC)	1 pc/pack
Cutter blade	CB09UA-5	○	○	0.9mm diameter, supersteel blade, 45 degree, comes with a spring, for cutting general film (up to 0.25mm thick)	5 blades/pack
	CB15U-5	○	○	1.5mm diameter, supersteel blade, 45 degree, for cutting slightly thick film (up to 0.5mm thick)	5 blades/pack
	CB15U-5SP	○	○	1.5mm diameter, supersteel blade, 45 degree, comes with spring, for cutting slightly thick film (up to 0.5mm thick)	5 blades/pack
	CB15U-K30-5	○	○	1.5mm diameter, supersteel blade, 30 degree, for cutting thick materials (up to 1.5mm thick)	5 blades/pack
	CB15U-K30-5SP	○	○	1.5mm diameter, supersteel blade, 30 degree, comes with a spring, for cutting thick materials (up to 1.5mm thick)	5 blades/pack
	CB15U-K20-2SP	○	○	1.5mm diameter, supersteel blade, 20 degree, comes with a spring, for cutting sandblast rubber (up to 1.0 mm)	2 blades/pack
	CB15UA-5	○	○	1.5mm diameter, supersteel blade, 45 degree, for cutting High-intensity reflective film	5 blades/pack
	CB15UA-K30-5	○	○	1.5mm diameter, supersteel blade, 30 degree, for cutting High-intensity reflective film	5 blades/pack
	CB15UB-2	○	○	1.5mm diameter, supersteel blade, 45 degree, for cutting small letter	2 blades/pack
	CB30UC-1		○	3.0mm diameter, supersteel blade, 45 degree, for cutting thick materials	1 blade/pack
Loupe	CLP-0001	○	○	Loope	1 pc/pack
Creasing tool	CP-001	○	○	For cardboard (pen type)	1 pc/pack
	CP-002		○	For cardboard (roller type)	1 pc/pack
	CP-003		○	For corrugated cardboard (roller type)	1 pc/pack
Ballpoint pen Plunger	PHP31-BALL	○	○	Plunger for oil based ballpoint pen (KB140 series)	2 pcs/pack
Oil based ballpoint pen	KB140-S1	○	○	Refill for ballpoint pen set (Black x 2, Red 1, Blue x 1, and Green x1)	5 pens/pack
	KB141-RD	○	○	Refill for ballpoint pen, Red	5 pens/pack
	KB142-BK	○	○	Refill for ballpoint pen, Black	5 pens/pack
	KB145-BL	○	○	Refill for ballpoint pen, Blue	5 pens/pack
	KB146-GR	○	○	Refill for ballpoint pen, Green	5 pens/pack
Water-based fiber-tip pen	KF550-S1	○	○	Multiple color set (Black x 2, Red x 1, Blue x 1, Green x 1)	5 pens/pack
	KF551-RD	○	○	Red	5 pens/pack
	KF552-BK	○	○	Black	5 pens/pack
	KF555-BL	○	○	Blue	5 pens/pack
	KF556-GR	○	○	Green	5 pens/pack

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RoHS Compliant model