

Graphtec FC8600-130 54" Vinyl Cutter and Plotter with Stand

Instruction Manual



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GRAPHTEC

Cutting Plotter

FC8600 ^{60/75/100/130/160} series

Grit-rolling cutters
with superior productivity and operation



New Feature

Software

Plug-in software for Illustrator & CorelDRAW
Cutting Master 4
Graphics design software
Graphtec Pro Studio ^{*1} / Graphtec Pro Studio Plus ^{*2}

ARMS5.0

Enhanced ARMS, improved
precision cutting and productivity
in Print & Cut application

Network Interface

Built-in Ethernet (10BASE-T/100BASE-TX),
ease of use in networked environments

+ Additional Features >>> Incorporates three new features

ISM(Intelligent Scan Mode)

A new scanning algorithm expands compatible
media and increases mark scanning success in Print
& Cut application

Sequential cutting

Sequential contour cutting mode within the segment area
compensation function improves accuracy of cutting and
tracking of media in Print & Cut application

EPS support

Import files in EPS, Ai, CMX, and PDF
format to Graphtec Pro Studio for
increased compatibility with popular
design software

*1 It supports only Windows OS. For Mac OS uses, Graphtec studio. *2 Option

www.graphteccorp.com

Best performing Cutter in its class

FC8600 series premiere cutting plotter providing higher productivity and greater ease of use

Fastest cutting speed in its class

1485 mm/s maximum cutting speed for the higher productivity.

Highest cutting force in its class

5.88 N (600 gf) maximum cutting force for a wide variety of applications.
Expands the range of possible cutting media such as thick film.

Reliable long-length tracking

Guaranteed 15m tracking and accuracy.*1

Includes basket and push rollers with 3 different pressure settings*2 to provide a more stable media feed and to support a wider range of media.

*1: Operated with Graphtec specified media and conditions.

*2: The center push rollers have 3 pressure settings, the end push rollers have two pressure settings



Five sizes to match all requirements

The series includes cutting widths of 61 cm (24 in.) to 162 cm (64 in.).

FC8600-160	← 162cm (64 in.) →	Media
FC8600-130	← 137cm (54 in.) →	
FC8600-100	← 106cm (42 in.) →	
FC8600-75	← 76cm (30 in.) →	
FC8600-60	← 61cm (24 in.) →	



Labels/Stickers
(Print & Cut in small size)



Apparel pattern paper



Window display
(Indoor and outdoor signage)



Window display with graphics
(Print & Cut in large size)



Traffic sign
(High-intensity reflective film)*

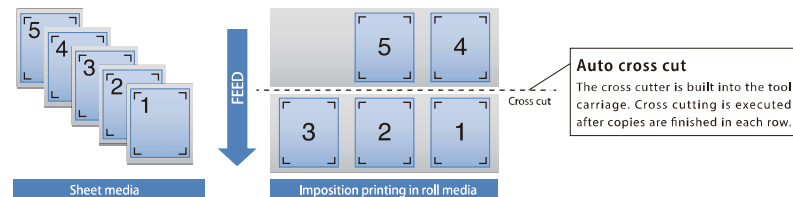
*Using cutting blade CB15UA or CB15UA-K30 is recommended. In some grades of reflective film, reinforcing the backing sheet of the media is recommended.

Enhanced functions for higher productivity

Copy with ARMS

The new fifth generation ARMS5.0 provides high-precision print & cut.

It supports the copying of the cutting data including the ARMS control command for making multiple copies of the downloaded data. This allows multiple copies to be created without a PC, significantly improving work efficiency. The media can be also separated by each row with the cross cutter when the cross cut function is enabled.



Built-in network interface

The USB 2.0 (Hi-Speed), RS-232C and Ethernet (10BASE-T/100BASE-TX) are built in as standard. Multiple interfaces enable various connections such as a single PC to single plotter and multiple PCs to multiple plotters. The Ethernet connection also allows sharing of the cutter over a network.



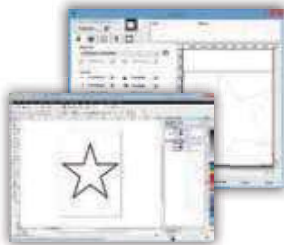
Improved application software

Plug-in software for Illustrator & CorelDRAW

Cutting Master 4 **NEW**

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 **NEW** Graphtec Studio

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.



Supported OS*1	Windows 10/8.1/8/7 Mac OS X 10.7~macOS 10.14
Supported software*1	Adobe Illustrator CC2019/CC2018/CC2017/CC2015.3/ CC2014/CC/CS6/CS5/CS4*2 Corel DRAW Graphics Suite 2018/2017/X8/X7/X6/X5/X4

<Main Features>

- Editing the position, enlarging and reducing the graphic directly within the preview windows
- Creating an outline of a letter, recognising a line width and the overlap
- Output by a layer or colour ● Inserting a line for weeding
- Splits an object into small pieces with the tiling function ● Supports the connection and switching of multiple plotters

Supported OS*1	Graphtec Pro Studio Graphtec Studio	Windows 10/8.1/8/7 Mac OS X 10.6~macOS 10.14
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<Main Features>

- Creating designs using autoshape, various line type, etc.
- Autotrace (supporting bmp, tiff, jpeg, etc. image format)
- Import EPS, DXF format files and other raster format files
- Inserting a line for weeding
- Editing text using rotate, mirror, fit-to-shape, etc.
- Supports the connection and switching of multiple plotters
- Output by a colour

*1: For more information about compatibility of the OS or application software, please check the Graphtec website or contact your local representative of Graphtec. *2: CS 4 is supported only in the Windows edition of Adobe Illustrator. *3: It is available on the Graphtec Pro Studio.

Enhanced functions for high productivity

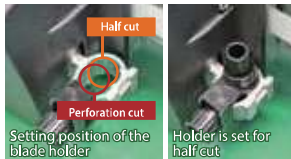
Intuitive operation

Settings can be easily set up using the large 3-inch LCD and tactile control panel. It is icon driven and supports multiple languages.



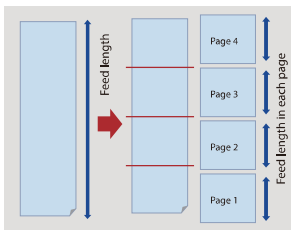
Perforation Cutting

Perforation cutting is performed by controlling the cutting force instead of blade up/down movements, increasing throughput. This is perfect for cutting separation lines for tearing out labels, fold lines for POP signs, and others.



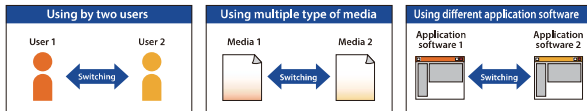
Auto-panelling

Auto-panelling is a new feature that automatically splits long-length jobs into smaller pages that are cut sequentially but without any gaps. The result is a seamless, long-length finished job. Media movement is limited to the smaller page being cut, improving accuracy and tracking.



Dual configuration

Save two (2) user settings with eight (8) condition settings for each user. A fast access key allows quick switching between users. One cutter can be shared by multiple users or for multiple purposes.



2 tool configuration for cutting & plotting

(Option)

It holds both a pen for plotting and a blade for perforated cutting. The tool is automatically switched for cutting and plotting as needed.



- The media stocker can be added for storing multiple roll media (Option, up to three)
- The media can be loaded from the rear or front by changing the direction of the stand

Option | Advanced software

NEW

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.

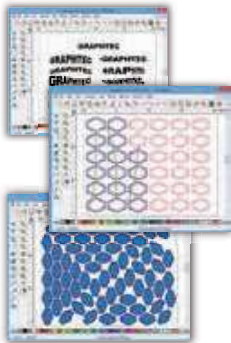
NEW LINEUP Limited Edition Software

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

Supported OS*	Windows 10/8.1/8/7
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<Main Features>

- Deformation, shadow, and stripe of texts and shapes
- Check the spelling
- Vectoring
- Filter for bitmap image
- Serialized number, Bar-code, QR code, etc.
- Power Nest (Nesting)
- Cutting simulation (Changing cutting order)
- Output by a layer or colour
- Inserting a line for weeding



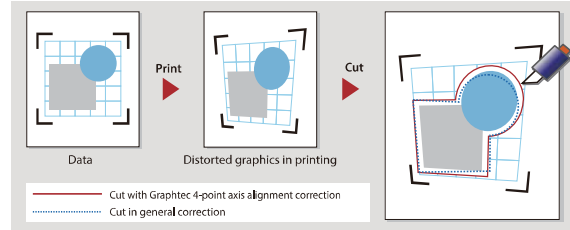
Improved ARMS 5.0 for high precision cutting

ARMS

Advanced Registration Mark Sensing System

4-point axis alignment

This feature compensates for any direction on the X-axis and Y-axis using sophisticated fifth-generation algorithms. This leads to more accurate registration and improves the reliability and quality of Print & Cut.



Multiple-mark compensation

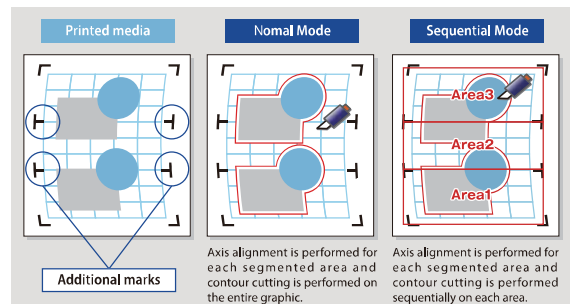
When the design is printed with the matrix copy function, the action of reading the marks and contour cutting is repeated for each copy. It significantly improves productivity for Print & Cut.

*This function is available when the Graphtec Studio, Cutting Master 3 or Cutting Master 2 software is used.

Segment area compensation

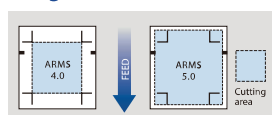
The 4-point axis alignment is performed for each segmented area. In Normal Mode, this is performed by reading the mark in the middle of the feeding direction for the entire graphic and then cutting the entire graphic, provides high-precision alignment for long length Print & Cut applications. In the new Sequential Mode, contour cutting is performed sequentially in each segmented area. Media movement is limited to the smaller area being cut, improving accuracy and tracking for heavier media or media that has been laminated.

* Normal mode is available when Graphtec Studio, Cutting Master 2/3, or Plotter Controller software is used. Sequential mode is available when Graphtec Studio (ver. 2.1.200 or later) or Cutting Master 3 (ver. 2.1.211 or later) is used. This function is available in firmware version 2.10 or later. Media must be within the specification in range. Marks may not be detected due to poor printing quality or media surface.



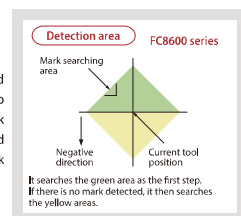
Expanded effective cutting area

The new ARMS 5.0 expands the cutting area to include the area outside the registration marks. This increases the production efficiency by reducing media waste.



Auto mark detection

The first registration mark is automatically detected within a wide search area; this eliminates the need to manually move the sensor near the registration mark position. Subsequent marks are automatically located which improves the operation of the registration mark searching.



ISM (Intelligent Scan Mode)

ISM incorporates a new scanning algorithm that expands the range of compatible media. ISM increases the mark scanning success, and can also detect the registration mark on textured media, such as brushed aluminum, or glossy laminated materials that were difficult using the conventional method.

* Media must be within the specification range. Marks may not be detected due to poor printing quality or media surface. This function is available in firmware version 2.10 or later.

Auto sensitivity adjust

The sensitivity of the registration mark sensor is automatically set by measuring the reflective level of the mark and the background of the actual media. The mark can be detected when the colour of the mark has a reasonable contrast against the background. For example, a white mark can also be detected on a coloured background.

Specifications						
Model	FC8600-60		FC8600-75	FC8600-100	FC8600-130	FC8600-160
CPU	32-bit CPU					
Configuration	Grit rolling type					
Drive method	Digital servo drive					
Maximum cutting area (W x L) (*1)	610 mm x 50 m		762 mm x 50 m	1067 mm x 50 m	1372 mm x 50 m	1626 mm x 50 m
Cutting area of guaranteed accuracy (*2)	590 mm x 15 m		742 mm x 15 m	1043 mm x 10 m, 894 mm x 15m	1342 mm x 10 m, 894 mm x 15 m	1603 mm x 10 m, 894 mm x 15 m
Mountable media width	Minimum	50 mm				
	Maximum	770 mm	920 mm	1224 mm	1529 mm	1850 mm
Maximum cross cut width	734 mm		886 mm	1191 mm	1496 mm	1750 mm
Number of push rollers	2 rollers		2 rollers	3 rollers	3 rollers	4 rollers
Maximum cutting speed	1485 mm/s at 45° direction					
Axial acceleration	Max. 39.2 m/s ² (4 G) in 8 steps					
Cutting force	Max. 5.88 N (600 gf) in 48 steps					
Mechanical resolution	0.005 mm					
Programmable resolution	GP-GL: 0.1 / 0.05 / 0.025 / 0.01 mm, HP-GL™: 0.025 mm					
Distance accuracy (*2)	Max. 0.1 mm or 0.1 % of plotted length					
Repeatability (*2)	Max. 0.1 mm in plot up to 2 m (excluding the expansion and contraction of the media)					
Minimum character size	Approx. 3 mm alphanumeric (varies depending on character font and media)					
Mountable number of tools	1 tool (cutting blade, plotting pen or pouncing tool) in standard; 2 tools (cutting blade and plotting pen) when second penholder (optional) is installed					
Blade types	Supersteel (0.9 mm or 1.5 mm diameter)					
Pen types	Water-based fiber-tip pen, Oil-based ballpoint pen					
Pouncing tool type	Steel pin 1.5 mm diameter, required optional pouncing tool (PPA 33-TP12)					
Media types (*3)	Self-adhesive marking film (vinyl, fluorescent, reflective, high-intensity reflective film) up to 0.25 mm thick, Sandblast resist rubber up to 1 mm thick					
Compatible paper for pouncing	Regular paper from 0.06 to 0.13 mm thick					
Light pointer	Built into the tool carriage					
Cross-cutter	Built into the tool carriage					
Perforation cutting	Supported (performed by force control)					
Registration mark sensing system	Scans the mark by optical sensor (ARMS5.0), Segment area and Multiple-mark compensation, 4-points axis alignment, Auto mark detect					
Alignment accuracy (*2)	Up to 0.3mm with printed image					
Standard interface	USB2.0 (High Speed), RS-232C, and Ethernet (10BASE-T/100BASE-TX)					
Buffer memory	2 MB					
Command sets	GP-GL / HP-GL™ emulation (Set by menu or command, and selects from GP-GL, HP-GL™, or Auto select)					
Condition settings	Dual configuration (save two (2) user settings with eight (8) separate condition setting for each user)					
Display	Graphic type LCD (3-inch, backlight)					
Power source	100 V to 240 V AC, 50 / 60 Hz					
Power consumption	Max. 160 VA					
Operating environment	10 to 35 °C, 35 to 75 % R.H. (non-condensing)					
Guaranteed accuracy environment	16 to 32 °C, 35 to 70 % R.H. (non-condensing)					
External dimensions (W x D x H) (approx.)	1128 x 715 x 1219 mm		1278 x 715 x 1219 mm	1578 x 715 x 1219 mm	1878 x 715 x 1219 mm	2138 x 715 x 1219 mm
Weight (approx.)	38 kg including stand		42 kg including stand	46 kg including stand	54 kg including stand	59 kg including stand
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 (*4) (*5)	Cutting Master 4, Graphtec Pro Studio, Graphtec Studio(for Mac)					
Compatible Standards	Safety	UL/cUL, CE marking				
	EMC	FCC Class A , CE marking, VCCI Class A				

*1 When the 2nd pen holder is installed, the maximum cutting width is changed. (FC8600-60: 601 mm, FC8600-75: 753 mm, FC8600-100: 1053 mm, FC8600-130: 1352 mm, FC8600-160: 1613 mm)

*2 Operated with Graphtec specified media and conditions. In long-length cutting, the basket is used.

*3 When some grades of high-intensity reflective film is used, the using CB15UA/CB15UA-K30 blade and reinforcing the backing sheet of the media are recommended.

*4 For more information about compatibility of the OS or application software, please check the Graphtec website or contact your local representative of Graphtec.

*5 The software can be used by downloading from Graphtec website.

Options		
Item	Part No.	Description
Media stocker	RSK0020	For FC8600-60 (Stock roller, bracket)
	RSK0021	For FC8600-75 (Stock roller, bracket)
	RSK0022	For FC8600-100 (Stock roller, bracket)
	RSK0023	For FC8600-130 (Stock roller, bracket)
	RSK0024	For FC8600-160 (Stock roller, bracket)
2nd pen holder	ECK0009	2nd pen holder (dealer option)
Flange	OPH-A21	Flange for media holding
Additional push roller	OPH-A22	One additional push roller (dealer option)
Graphtec Pro Studio Plus	OPS682-PLS	Design software including all advanced functions. (1 license)
Graphtec Pro Studio Plus for Rhinestone	OPS682-RSF	Limited edition of rhinestone function only as an advanced functions. (1 license)
Graphtec Pro Studio Plus for Auto Nesting	OPS682-ANF	Limited edition of auto nesting function only as an advanced functions. (1 license)

Supplies			
Item	Part No.	Description	Package
Blade holder	PHP33-CB09N-HS	For 0.9mm dia. blade (CB09U series)	1 set/pack
	PHP33-CB15N-HS	For 1.5mm dia. blade (CB15U series)	1 set/pack
	PHP35-CB09-HS	For 0.9mm dia. blade (CB09U series)	1 set/pack
	PHP35-CB15-HS	For 1.5mm dia. blade (CB15U series)	1 set/pack
Cutting blade	CB09-P	0.9mm dia. supersteel blade	5 blades/pack
	CB09UB-5	0.9mm dia. supersteel blade	5 blades/pack
	CB09UB-K60-5	0.9mm dia. 60° angle, for cutting thin film	5 blades/pack
	CB15U-5	1.5mm dia. supersteel blade	5 blades/pack
	CB15U-K30-5	1.5mm dia. 30° angle, for cutting sandblast rubber	5 blades/pack
	CB15UA-5	1.5mm dia. for cutting high intensity reflective film	5 blades/pack
	CB15UA-K30-5	1.5mm dia. 30° for cutting high intensity reflective film	5 blades/pack
Cross-cutter blade	CT01H	Standard type	1 blade/pack
	CT02U	High durability type	1 blade/pack
Loupe	PM-CT-001	Checking blade length, for PHP33 and PHP35 series	1 set/pack
Fiber-tip pen holder	PHP31-FIBER	For KF700 series pen	1 set/pack
Water-based fiber-tip pen	KF700-BK	Black colour pen	10 pens/pack
	KF700-RD	Red colour pen	10 pens/pack
Ballpoint pen holder	PHP34-BALL	For KB700 pen	1 set/pack
Oil-based ballpoint pen	KB700-BK	Black colour pen	10 pens/pack
Pouncing tool	PPA33-TP12	Steel pin 1.5mm dia.	1 set/pack

Standard accessories		
Item	Q'ty	Description
Power cord	1	The type of cord is different by destination
Cutting blade holder	1	PHP33-CB09N-HS
Cutting blade	1	CB09UB
Fiber-tip pen holder	1	PHP31-FIBER
Water-based fiber-tip pen	1	KF700-BK (black ink)
Stand	1	Parts kit of stand
Media stocker	1	Set of stock rollers and mounting brackets (Installed on the stand)
Basket	PG0039	Parts kit for FC8600-60
	PG0040	Parts kit for FC8600-75
	PG0041	Parts kit for FC8600-100
	PG0042	Parts kit for FC8600-130
USB cable	1	Cable for USB2.0, 2.9m long
DVD-ROM	1	User's manual, Windows driver, Plotter Controller, Cutting Master4 (plug-in software for illustrator/ CorelDRAW in Windows, illustrator in Mac), Graphtec Pro Studio (design software for Windows), Graphtec STUDIO (Design software for Mac)
Printed document	1	Quick start and safety guide

• Brand names and product names listed in this brochure are the trademarks or registered trademarks of their respective owners.

• 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 : The 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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