# GRAPHTEC

## Flatbed Cutting Plotters

# FCX2000 & FCX4000
### Series ... 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.
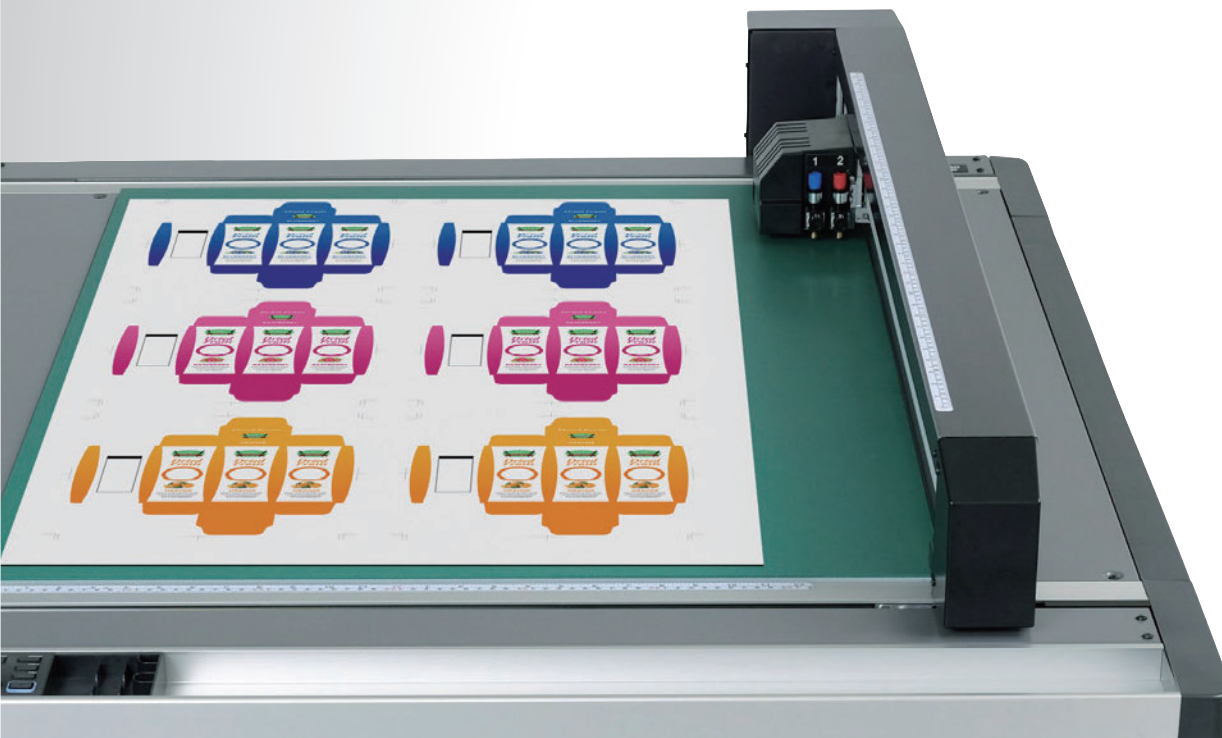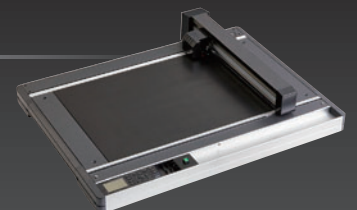
*FCX2000-60VC shown.

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**Advanced model with wide variety of tools and highest performance**

## FCX2000 Series

| Max. force | Speed |
|---|---|
| 9.8N (1 kgf) | 400 mm/s |

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

FCX2000-60VC     FCX2000-120VC     FCX2000-180VC

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

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

## FCX4000 Series

| Max. force | Speed |
|---|---|
| 5.88N (600 gf) | 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.

FCX4000-50ES     FCX4000-60ES

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## 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.

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

### Packaging
Cardboard (up to E flute : 1.5 mm)*1

### Packaging / POP
Heavy paper

### Sticker
Seal / Magnet sheet

### Sandblasting
Sandblast resist rubber

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## Enhanced functions for higher productivity and work efficiency

### ■ Offline operation supported by use of USB flash memory

※ The USB flash memory format only supports FAT32. Please note that NTFS and exFAT are not supported. The file name must be in half-width alphanumeric characters.

| Supported Software | • Cutting Master 4<br>• Graphtec Pro Studio<br>• 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/Plus, 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.

*I easily produced it!*

Pass the data via USB

**Designer**　　　**Operator**
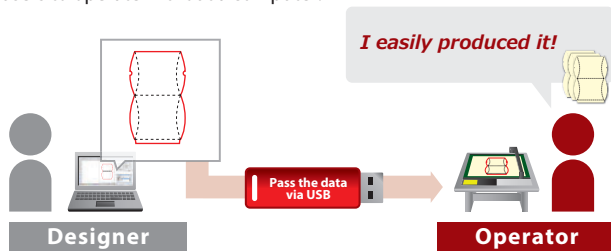
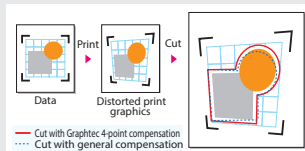#### Data management using barcode function with USB flash memory

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.

*P&C was performed by simply reading the barcode!*

Print Data

Pass the data via USB

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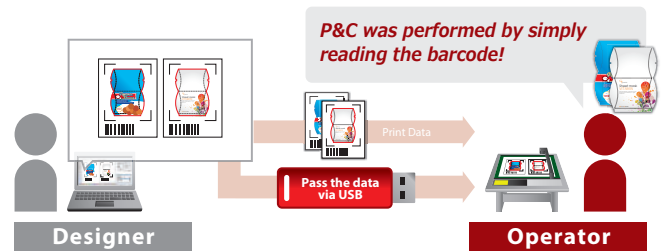
### ■ Enhanced ARMS (Advanced Registration Mark Sensing system) for improved productivity of P&C applications

#### 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.

Data　Distorted print graphics

Print ▶ Cut ▶

— Cut with Graphtec 4-point compensation
····· Cut with general compensation

#### 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.

**Reference** Standard mark example

Printing object　　Printing object

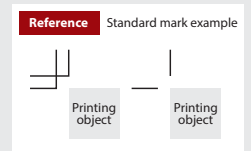#### Reverse side Cutting/Creasing using ARMS

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.**

#### 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.

#### Automatic ARMS Sensitivity Adjustment

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

#### 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



**Garment / Shoe Pattern**
Cardboard / Compressed foam sheet

**Traffic Signage**
High-intensity reflective film

**Industrial Goods**
Highly-functional film

**Window Display**
Self-adhesive marking film

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## 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.
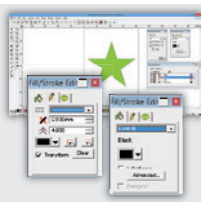
### plug-in software
### Cutting Master 4    Win | Mac

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.
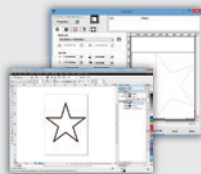
### Graphics design software
### Graphtec Pro Studio    Win

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

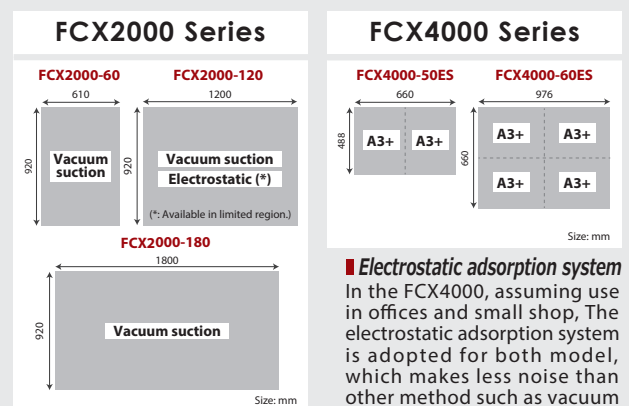Advanced software
### Option    Graphtec Pro Studio *Plus*

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.
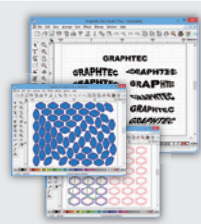
### NEW LINEUP    Limited Edition Software
- Graphtec Pro Studio Plus for Rhinestone
- Graphtec Pro Studio Plus for Auto Nesting

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## Table size and Media hold-down method

### FCX2000 Series

**FCX2000-60**
610 × 920
Vacuum suction

**FCX2000-120**
1200 × 920
Vacuum suction
Electrostatic (*)
(*: Available in limited region.)

**FCX2000-180**
1800 × 920
Vacuum suction

Size: mm

### FCX4000 Series

**FCX4000-50ES**
660 × 488
A3+ | A3+

**FCX4000-60ES**
976 × 660
A3+ | A3+
A3+ | A3+

Size: mm

#### 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.

#### 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.

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## 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) **NEW**
- 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 | 1200 mm x 920 mm | 1800 mm x 920 mm | 1200 mm x 920 mm | 660mm×488mm | 976mm×660mm |
| Mountable media (Y-axis) | 950 mm (37.4 inch) | | | | 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(1 to 75 cm/s in 23 steps), in all directions | |
| 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: 40 steps | | | | Tool 1: in 48 steps, Tool 2: in 48 steps | |
| Minimum character height | Approx. 3 mm square(Approx. 0.12 inch) (varies with character font and media) Under conditions specified by Graphtec | | | | | |
| Programmable resolution | GP-GL mode: 0.1/0.05/0.025/0.01 mm, HP-GL™ : 0.025 mm | | | | | |
| Distance accuracy(*2)(*11) | Max. 0.1% of the distance moved or 0.1 mm, whichever is larger ( Value after distance correction) | | | | | |
| Perpendicularity(*11) | Max 0.5 mm / 900 mm | | | | Max 0.3 mm / 430 mm | Max 0.4 mm / 610 mm |
| Repeatability (*2)(*11) | Max 0.1 mm | | | | | |
| Display | Graphic type LCD (240 dots x 128 dots), supports Japanese, English and Chinese | | | | | |
| Standard interfaces | USB2.0 / RS-232C / Ethernet(10BASE-T/100BASE-TX) | | | | | |
| 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 | | | Cutting blade (supersteel), Pens (Water-based fiber-tip pen), and Creasing/scoring tool(*10) | | |
| 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 ºC, Humidity: 35% to 75% RH (non-condensing) | | | | | |
| Guaranteed accuracy environment | Temperature: +16 to +32 ºC, 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 , Mac OS X 10.7 to 10.11 / macOS 10.12 (Sierra) to 11 (Big Sur) | | | | | |
| Supported software (*5) — Standard | Graphtec Pro Studio(Win), Graphtec Studio(Mac), Cutting Master4(Win/Mac) | | | | | |
| Supported software (*5) — 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 | | | | | |
| Compatible Standards — EMC | FCC Class A , CE marking, VCCI Class A | | | | | |

### Media type ○ : Available   △ : Limited

| Type of media | | Thickness | Support cutting blade | FCX2000 Series 60VC | 120VC | 180VC | 120ES | FCX4000 Series 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-5, CB15U-K30 | ○ | ○ | ○ | ○ | ○ | ○ |
| | | up to 1.0 mm | CB15U-5, CB30UC | ○ | ○ | ○ | ○ | △(*9) | △(*9) |
| Compressed foam sheet | | up to 0.8 mm | CB15U-K30 | ○ | ○ | ○ | | ○ | ○ |
| Sandblast resist rubber | | up to 1.0 mm | CB15U-K30 | ○ | ○ | ○ | ○ | ○ | ○ |
| Cardboard | E flute | up to 1.5 mm | CB30UC (*6) | ○ | ○ | ○ | ○ | | |
| | F/G flute | up to 1.2 mm | CB15U-K30 | ○ | ○ | ○ | ○ | ○ | ○ |
| | | | CB30UC | ○ | ○ | ○ | ○ | | |
| Rubber sheet | | up to 2.0 mm | PM-CB-001 (*6) | ○ | ○ | ○ | | | |
| Clear sheet for plastic boxes | | up to 1.0 mm | CB15U-5 | ○ | ○ | ○ | ○ | ○ | ○ |
| | | 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. 45º, Supersteel | 5 blades / pack |
| | CB09UB-5 | ○ | ○ | 0.9mm dia. 45º, Supersteel | 5 blades / pack |
| | CB09UB-K60-5 | ○ | ○ | 0.9mm dia. 60º, for thin film | 5 blades / pack |
| | CB15U-5 | ○ | ○ | 1.5mm dia. 45º, for thick film | 5 blades / pack |
| | CB15U-K30-5 | ○ | ○ | 1.5mm dia. 30º, for sandblast resist rubber | 5 blades / pack |
| | CB15UA-5 | ○ | ○ | 1.5mm dia. 45º, for high intensity reflective film | 5 blades / pack |
| | CB15UA-K30-5 | ○ | ○ | 3.0mm dia. 30º, for high intensity reflective film | 5 blades / pack |
| | CB30UC-1 (*6) | ○ | | 3.0mm dia. 45º, for cardboard (E flute) | 1 blade / pack |
| | PM-CB-001 (*6) | ○ | | 3.0mm dia. 30º, for rubber sheet | 2 blades / pack |
| Loupe | PM-CT-001 | ○ | ○ | Checking blade length, for PHP33 and PHP35 series | 1 set / pack |
| Creasing/ Scoring tool | CP-001 | ○ | | Stick type, for heavy paper | 1 set / pack |
| | CP-002 | ○ | | Roller type (R0.2), for heavy paper | 1 set / pack |
| | 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-002A | | ○ | For FCX4000-50ES. Transparent vinyl, thickness 0.3 mm. | 1 sheet / pack |
| | PM-CR-003A | | ○ | For FCX4000-60ES. Transparent vinyl, thickness 0.3 mm. | 1 sheet / pack |
| | PM-CR-004A | ○ | | For FCX2000-120ES. Transparent vinyl, thickness 0.3 mm. | 1 sheet / pack |

### Standard accessories

#### FCX2000 series  *Please read Cutter Blade Manual before use.

| Item | Q'ty | Description |
|---|---|---|
| Power cord | 1 | The type of cord is different by destination |
| Cutting blade holder | 1 | PHP35-CB15-HS |
| Cutting blade | 1 | CB15U-2,CB15U-K30-5 |
| Loupe | 1 | PM-CT-001 (for checking the extruded length of blade) |
| Pen holder | 1 | PHP31-FIBER |
| Water-based fiber-tip pen | 1 | KF700-BK (Black) |
| Height adjustment tool | 1 | For adjusting position of tool head (plate, key wrench) |
| Protect Sheet | 1 | PM-CR-004A for ES models only |
| USB cable | 1 | Length 2.9 m |
| Roll media stocker | 1 | Loadable media: width up to 950 mm, weight up to 5 kg |
| Stand | 1 | Legs of the stand (Connecting bar is packed with main unit) |
| DVD-ROM | 1 | User's manual (PDF),Cutter blade manual, Windows driver (OPS662), Cutting Master 4 (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 guide, Usage Precautions,Safety manual |
| Durable flexible hose | 1 | For VC models only, 1.5 to 5 m (shrinked/extended) Connection bore diameter: 50mm |
| Hose band | 2 | For VC models only, to fix the hose |

#### FCX4000 series  *Please read Cutter Blade Manual before use.

| Item | Q'ty | Description |
|---|---|---|
| Power cord | 1 | The type of cord is different by destination |
| Cutting blade holder | 1 | PHP33-CB15N-HS |
| Cutting blade | 1 | CB15U-1 |
| Loupe | 1 | PM-CT-001 (for checking the extruded length of blade) |
| Pen holder | 1 | PHP31-FIBER |
| Water-based fiber-tip pen | 1 | KF700-BK (Black) |
| Protect Sheet | 1 | PM-CR-002A for FCX4000-50ES / PM-CR-003A for FCX4000-60ES |
| USB cable | 1 | Length 2.9 m |
| DVD-ROM | 1 | User's manual (PDF),Cutter blade manual, Windows driver (OPS662), Cutting Master 4 (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 documents | 1 | Quick guide, Usage Precautions,Safety manual |

### Option

| Item | Part number | Description |
|---|---|---|
| Panel for VC model (*7) | OPH-A35 | 10 mm vacuum hole pitch for FCX2000-60VC |
| | OPH-A36 | 10 mm vacuum hole pitch for FCX2000-120VC |
| | OPH-A37 | 10 mm vacuum hole pitch for FCX2000-180VC |
| 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) |
| Stand | ST0113 | For FCX4000-60ES |
| Warning Light (Optional) (*8) | OPH-A40 | The component incorporated to FCX2000 |

*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.
*9  CB30UC is not available for FCX4000 series.*10  Recommend to use with Adhesive sheet or Cling mat.*11  excluding contraction of media, in plotting/cutting mode.

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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.

eco RoHS compliant product

CE

FCX2000-4000_JE10693_5D