*Changes for the Better*

MITSUBISHI ELECTRIC

INDUSTRIAL SEWING MACHINES

# PLK-G Series

**PLK-G1010/K2**
**PLK-G2010R**
**PLK-G2516R**
**PLK-G2516**

## Unlimited application potential


Automation Technology
BY MITSUBISHI ELECTRIC

ISO 9001
BUREAU VERITAS Certification

BUREAU VERITAS 1828

UKAS QUALITY MANAGEMENT
008

# Advanced G Series–Equipped with industry-leading machine specifications

## 1

High-speed sewing with industry-leading tact time
**2800 stitches/minute**

(As of March 2009)
**Industry-leading sewing speed**

## 2

Powerful penetration force even at the start of stitching and thread trimming
**750W** direct servomotor increases sewing applications

(As of March 2009)
**Industry's top-class penetration force**

## 3

Prevention of skipped stitches and thread breakage even when stitching material thickness changes is ensured using the programmable presser foot height adjustment function.
**Digital Feedback Control**

**Sewing quality improved with new control method**
(Digital sewing technology)

## 4

Quicker processing of pattern data with high stitch count
Pattern creation time minimized up to **one-tenth**
Work efficiency increased by **3 to 10-fold**
(Comparison with PLK-E series)

**USB memory & High-speed processing**

## 5

Direct-drive method reduces power consumption by **approximately 40%**
(Compared to previous Mitsubishi Electric models)

**Power consumption reduced in consideration of the environment**

## 6

Easy expandability for customization and automation
Superior **compatibility** with **host control units** (Mitsubishi Electric programable controller)

**Automation support functions**

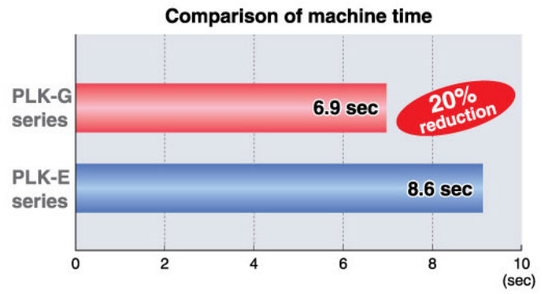
# G Series

## Industry-leading Sewing Speed-2800 stitches/min

(As of March 2009)

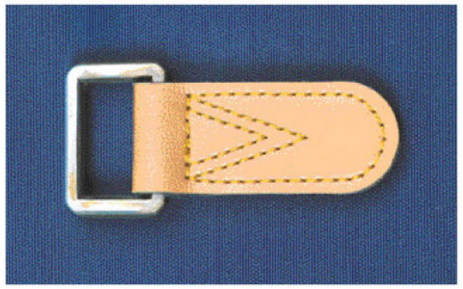
Feedback for the XY table mechanism is incorporated to realize high-speed intermittent feed sewing. Machine time has been reduced by 20% compared to conventional models.

[Measurement conditions]
Sewing data :Square (100mm x 100mm) + diagonal line
Number of stitches :232 stitches
Stitch length :3mm
Sewing speed :2,800 stitches/min (PLK-G series)
(2,440 stitches/min (PLK-E series) )




## Beautiful Stitches

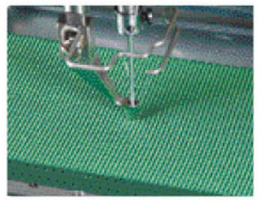
The improved presser foot mechanism and feed mechanism rigidity together with the latest feed control (feedback control) realize beautiful stitches, from low to high speeds, in all areas including corners which follow the sewing data and stitch linearity.

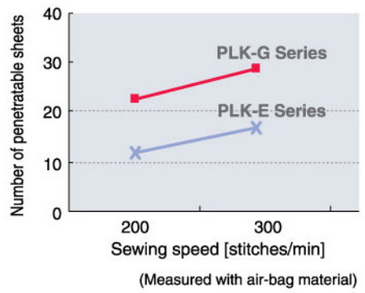


## Industry Top-class Penetration Force

The increased power of the 750W direct-drive servo motor provides the industry top-class penetration force. Low-speed sewing (200rpm) at the start of sewing and thread cutting, which was conventionally difficult to carry out, can now be performed with ease.

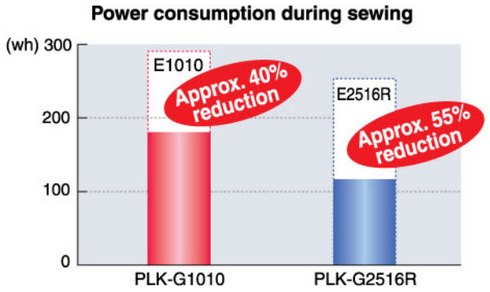
Increased applications!!
Improved stability!!





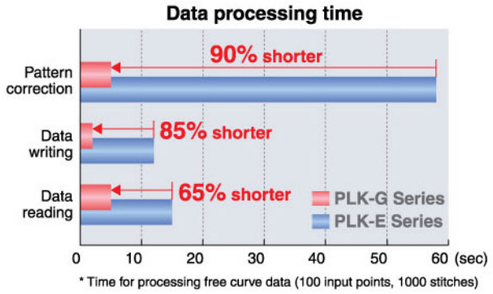

## Reduced Power Consumption

The direct-drive method helps to reduce the power consumed during sewing by approximately 40%. Power consumed while waiting is also reduced by approximately 50% by incorporating an XY drive feedback control method.
This electronic sewing machine boasts the market's lowest power consumption in the industrial sewing machine category.



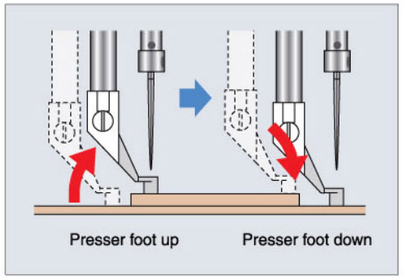

## Improved Work Efficiency

Adoption of a USB memory and high-speed processing system has greatly shortened the time required to input and correct data for patterns with many stitches.
The inching key greatly improves the speed during clamp movement, and improves work efficiency.




## Programmable Presser Foot Height Control

A programmable presser foot height function is incorporated. Skipped stitches and thread breakage can be prevented by changing the presser foot height according to the material thickness. The programmed presser foot data is saved in the sewing data, so the presser foot height does not need to be adjusted even if the material thickness changes.




## Large, High-visibility, Easy-to-use LCD Touch-type Operation Panel

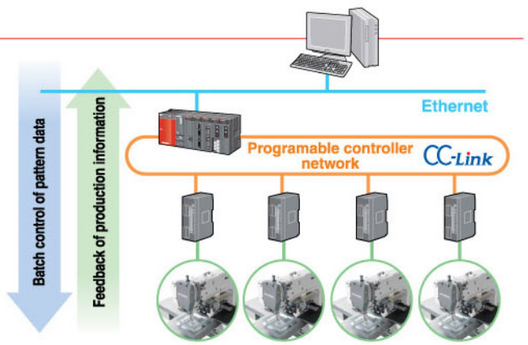
In addition to the basic sewing machine operations1, this panel can be used to process patterns2, confirm the status of the various sensor input and solenoid output signals, and individually set the sewing machine functions and input/output ports.

- Frequently used switching patterns can be selected quickly with the shortcut button.
- A simple explanation function is incorporated to display the application of each screen button when the button is touched.
- When inputting patterns, the clamp frame movement speed can be selected from three different settings.
- An easy-to-carry and use shape has been adopted.

1: Home return, jog, speed change, pattern call, up/down counter, bobbin winding, etc.
2: Pattern call, write, input, correction, conversion, etc.


## Factory Automation

Various functions to connect to a production factory's network and support production control, including popular pattern selection using a barcode reader, are incorporated. Compatibility with Mitsubishi Electric programable controllers is outstanding.

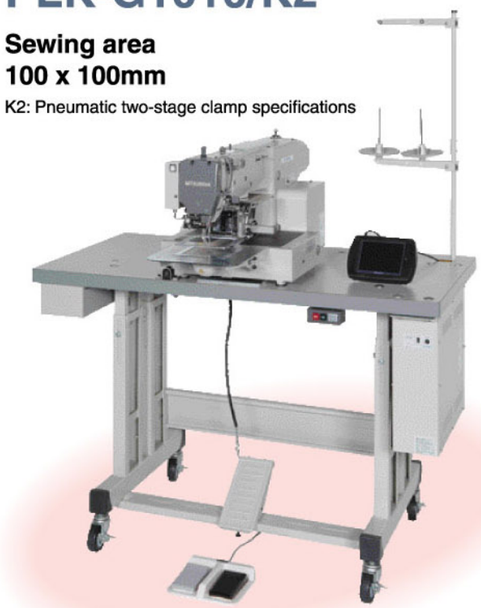


## Large-size shuttle hook

### PLK-G1010/K2

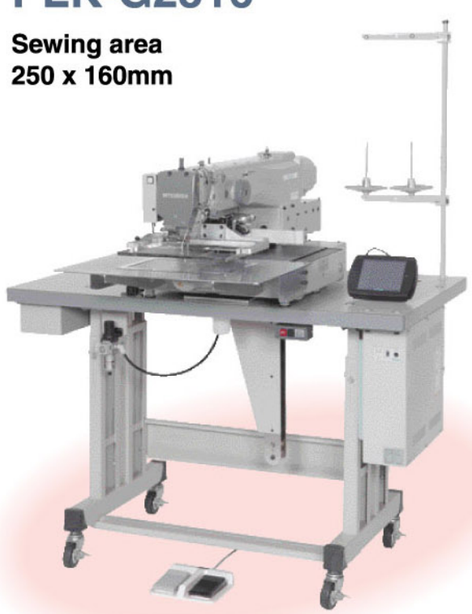
**Sewing area**
**100 x 100mm**

K2: Pneumatic two-stage clamp specifications



### PLK-G2516

**Sewing area**
**250 x 160mm**



## Double-size rotary hook

### PLK-G2010R

**Sewing area**
**200 x 100mm**

### PLK-G2516R

**Sewing area**
**250 x 160mm**

# Options

**•PC Software**

## Powerful Automation Support Functions

### PTN-G

**● Sewing data creation software**

**PTN-G**

Stitching data can be created easily using a personal computer. CAD data can also be read.

**● Sewing machine parameter setting software**

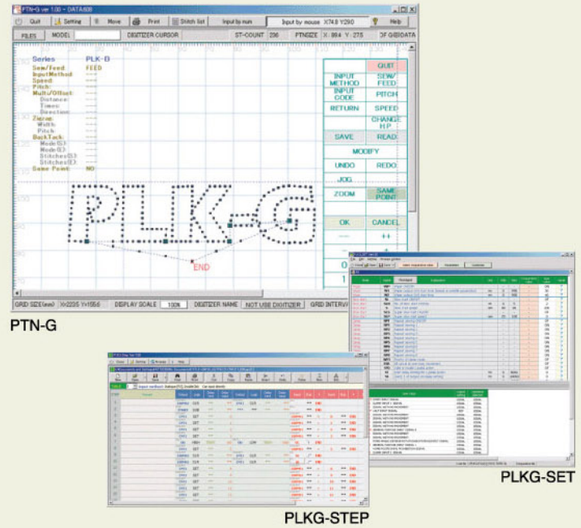
**PLKG-SET**

Settings made using the sewing machine's operation panel can be set using a personal computer.

**● Sewing machine sequence software**

**PLKG-STEP**

The sewing machine and external device operations can be programmed.




PTN-G



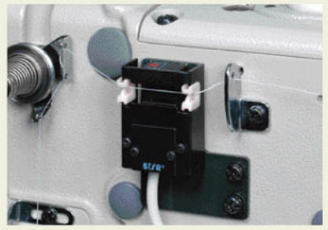
PLKG-SET



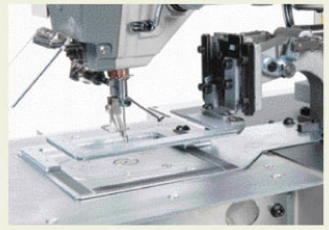
PLKG-STEP

**•Optional Devices**

MP-G10-AT
**Pneumatic 2-step tensioner**



MP-G10-TS
**Upper-thread breakage detector**



MP-G10-K2
**2-step left/right alternating clamp**

| Part name | Type | G1010 | G2010R | G2516R | G2516 | Application |
|---|---|---|---|---|---|---|
| Pneumatic clamp | MP-G10-AO | ● | — | — | — | Suitable for materials requiring clamp holding force. |
| Pneumatic two-stage clamp | MP-G10-K2 | ● | — | — | — | The left and right clamps can be lowered independently, simplifying part and label stitching. |
| Label sewing unit | MP-G10-AH | ● | — | — | — | Used to stitch the entire periphery of parts or labels. |
| Manual type clamp | MP-G20-MF | — | ● | — | — | The sewing material position can be fine-tuned manually. |
| | MP-G25-MF | — | — | ● | ● | |
| Pneumatic 2-step tensioner | MP-G10-AT | ● | — | — | — | Differences in the thread tension, caused by changes in the stitching direction or thickness, are eliminated. |
| | MP-G20-AT | — | ● | ● | ● | |
| Sewing area extension kit | MP-G10-EX | ● | — | — | — | The X-axis direction can be expanded by 210mm. |
| Upper-thread holding device | MP-G10-TH | ● | — | — | — | Holds trimmed needle thread, preventing the thread from tangling at the start of stitching. |
| | MP-G20R-TH | — | ● | ● | ● | |
| Upper-thread breakage detector | MP-G10-TS | ● | — | — | — | Stops the sewing machine when needle thread breakage is detected. |
| | MP-G25-TS | — | ● | ● | ● | |
| Needle cooler | MP-G10-NC | ● | — | — | — | Needle thread breakage caused by heat is prevented by cooling the needle with air. |
| | MP-G20-NC | — | ● | ● | ● | |
| Sewing machine head tilting auxiliary component | MP-G10-GS | ● | — | — | — | Force required to lift the sewing machine head is reduced with a gas spring. |
| | MP-G20-GS | — | ● | — | — | |
| I/O expansion unit | MP-G10-TE | ● | — | — | — | The number of input/output ports which can be connected to the sewing machine are expanded. (12 extra input ports, 12 extra output ports) |
| | MP-G20-TE | — | ● | ● | ● | |

## •Specifications

| Item \ Model | G1010 | K2 | G2010R | G2516R | G2516 |
|---|---|---|---|---|---|
| Stitching style | Single needle lockstitch | | | | |
| Hook type | Large-size shuttle hook | | Double-size rotary hook | | Large-size shuttle hook |
| Sewing area (XxY) | 100mm x 100mm | | 200mm x 100mm | 250mm x 160mm | |
| Maximum sewing speed | 2,800 stitches/min | | | | |
| Feed method | Intermittent or continuous (switchover method) | | | | |
| Stitching pitch | 0.1mm to 20.0mm (resolution 0.1mm) | | | | |
| Maximum no. of stitches | 20,000 stitches/pattern | | | | |
| Maximum no. of stored patterns | 512 patterns (control panel internal memory) | | | | |
| Enlargement/ reduction function | 10 to 200% for both X and Y axes (variable in 0.1% steps) | | | | |
| Memory medium | USB flash memory (not included with sewing machine)<br>(USB-connected FDD can also be connected) | | | | |
| Total weight | 133kg | | 147kg | 168.5kg | 161.5kg |
| Work holder lift stroke | 25mm max. | 30mm max. | | | |
| Work holder method | Electromagnetic | Pneumatic | | | |
| Presser foot lift stroke | 15mm max.<br>(variable in 0.2mm steps) | | | | |
| Presser foot stroke | 4 to 10mm | | | | |
| Spindle motor | Mitsubishi Electric 750W direct servo motor | | | | |
| Applicable needle | DP x 17 #18 | | | | |
| Operation panel | 5.7" LCD touch panel, white LED backlight | | | | |
| Outline dimensions | 1,200mm (W) x 867mm (D)<br>x 1,225mm (H)<br>(excluding thread stand) | | 1,200mm (W) x 930mm(D)<br>x 1,230mm (H)<br>(excluding thread stand) | 1,200mm (W) x 1,068mm (D)<br>x 1,230mm (H)<br>(excluding thread stand) | |
| Power supply | 220 to 240V, single-phase/3-phase<br>110 to 120V, 380 to 415V (option unit required) | | | | |

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