Changes for the Better

MITSUBISHI ELECTRIC

INDUSTRIAL SEWING MACHINES

PLK-G series

PLK-G1010/K2
PLK-G2010R
PLK-G2516R

Showing sewing potential in various fields

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 leads the industry in tact time
2800 stitches/minute

Industry-leading class sewing speed

2

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

Industry's top class penetration force

3

Prevention of skipped stitches and thread breakage even when stitching material thickness changes is accomplished by utilization 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 by **one-tenth**
Work efficiency increased by **3 to 10-fold** (Mitsubishi comparison)

USB memory & High-speed processing

5

Power consumption **reduced by approx.40%** with DD* method * Direct drive (Mitsubishi Comparison)

Power consumption is reduced Environment is considered

6

Easy expansion for customization and automation
Superior **affinity** with **host control units** (Mitsubishi PLC) enables

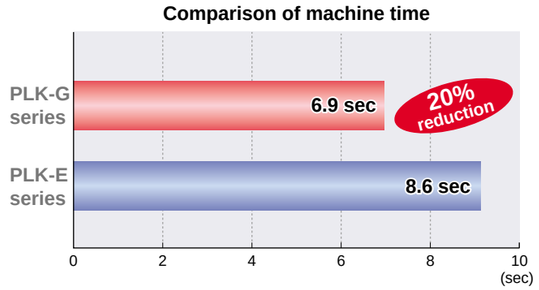
Automation support functions

G series

Industry-leading Class Sewing Speed 2800 stitches/min

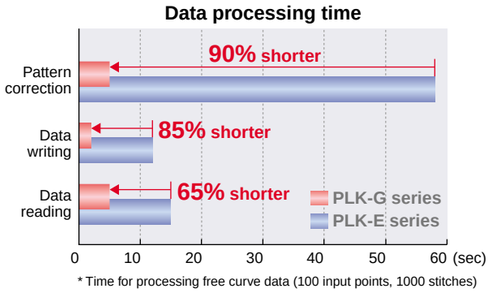
By Incorporating feedback for the XY table mechanism, high-speed sewing of a intermittent feed has been realized, and the machine time has been reduced by 20% over conventional models.

[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))



Improved Work Efficiency

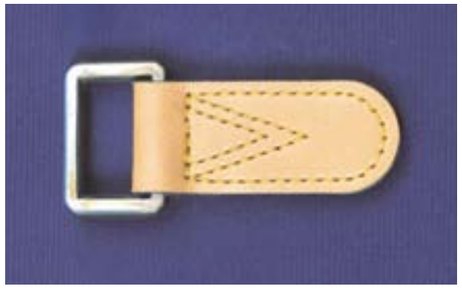
Adoption of a USB memory and high-speed processing system has greatly shortened the time required to input and correct data for patters having many stitches.
The inching key greatly improves the speed during clamp movement, and improves the work efficiency.



* Time for processing free curve data (100 input points, 1000 stitches)

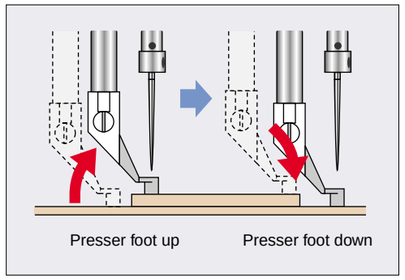
Beautiful Stitches

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.



Programmable Presser Foot Height Control

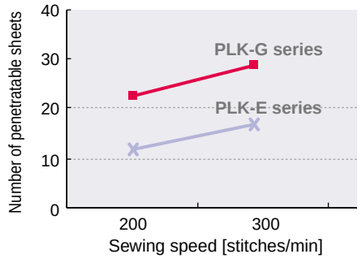
A presser foot height program function is incorporated. Skipped stitches and thread breakage can be prevented by changing the presser foot height according to the material thickness. The programmed presser foot data is saved in the sewing data, so the presser foot height does not need to be adjusted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



Industry's Top Class Penetration Force

The powered-up 750W direct drive servomotor is the industry's top class penetration force. Low-speed sewing (200rpm) at the start of sewing and thread cutting which was conventionally difficult to perform can now be performed with ease.

Increased applications!!
Improved stability!!



(Measured with air bag material)

Easy-to-use and see with large LCD touch-type operation panel

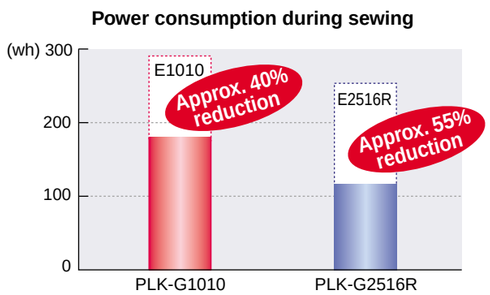
In addition to the basic sewing machine operations*1, this panel can be used to process patterns*2, confirm the status of the various sensor input and solenoid output signals, and to individually set the sewing machine functions and input/output ports.

- Switching patterns used often can be selected quickly with the shortcut button.
- 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 steps.
- 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.

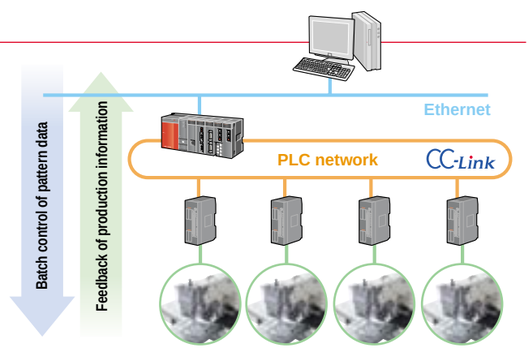
Reduced Power Consumption

The direct drive method, with low power consumption, helps to reduce the power consumed during sewing by approx 40%.
Power consumed while waiting is also reduced by approx 50% by incorporating an XY drive feedback control method.
This electronic sewing machine boasts the market's lowest power consumption in this sewing area class.



Factory Automation

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

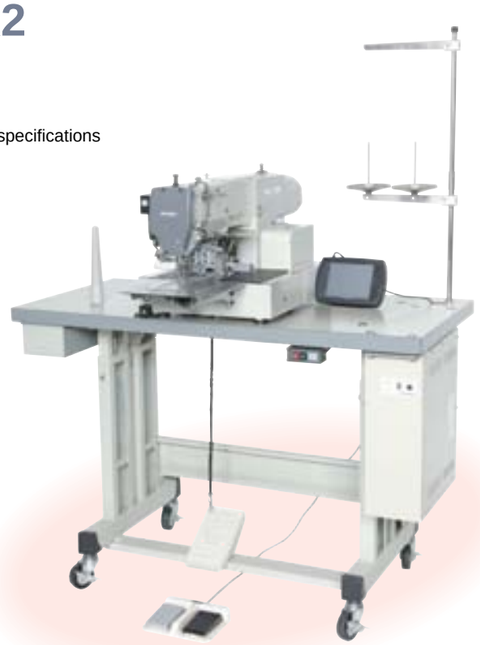


Large size oscillating shuttle hook

PLK-G1010/K2

Sewing area
100 x 100mm

K2: Pneumatic type two stage clamp specifications



Double size-rotary hook

PLK-G2010R

Sewing area
200 x 100mm

PLK-G2516R

Sewing area
250 x 160mm

Option

•PC software

Powerful Automation Support Functions

PTN-G

● Sewing data creation Software

PTN-G

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

● Sewing machine parameter setting software

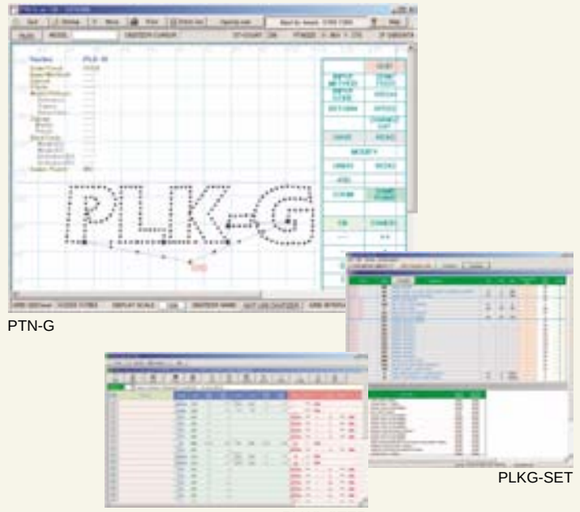
PLKG-SET

Settings carried out with the sewing machine's operation panel can be made with 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	Application
Pneumatic type clamp	MP-G10-AO	●	—	—	Suitable for materials requiring clamp holding force.
Pneumatic type two stage clamp	MP-G10-K2	●	—	—	The left and right clamps can be lowered independently, easing part and label stitching.
Label sewing unit	MP-G10-AH	●	—	—	This device is used to stitch the entire periphery of parts or labels.
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.
Extra heavy thread trimming device	MP-G10-TM	●	—	—	No. 5 or thicker thread can be cut with this trimmer.
Upper thread holding device	MP-G10-TH	●	—	—	The trimmed needle thread is held, preventing the thread from tangling at the start of stitching.
	MP-G20R-TH	—	●	●	
Upper thread breakage detector	MP-G10-TS	●	—	—	The sewing machine is stopped if breakage of the needle thread 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

model / Item	G1010	K2	G2010R	G2516R
Stitching style	Single needle lockstitch			
Hook type	**Large size oscillating shuttle hook**		Double size rotary 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 enclosed with sewing machine) (USB-connected FDD also connectable)			
Total weight	133kg		147kg	168.5kg
Work holder lift stroke	Max. 25mm	Max. 30mm		
Work holder method	Electromagnetic	Pneumatic type		
Presser foot lift stroke	Max. 15mm (variable in 0.2mm steps)			
Presser foot stroke	4 to 10mm			
Spindle motor	Mitsubishi 750W direct servomotor			
Applicable needle	DP x 17 #18			
Operation panel	5.7" LCD touch panel, White LED backlight			
Outline dimensions	1,200mm (W) x 867mm (D) x 1,225mm (H) (Excluding thread stand)		1,200mm (W) x 930mm(D) x 1,230mm (H) (Excluding thread stand)	1,200mm (W) x 1,068mm (D) x 1,230mm (H) (Excluding thread stand)
Power supply	220 to 240V, single-phase/3-phase 110 to 120V, 380 to 415V (Option unit required)			

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