

GN_{series}



Multi-head Automatic Embroidery Machine

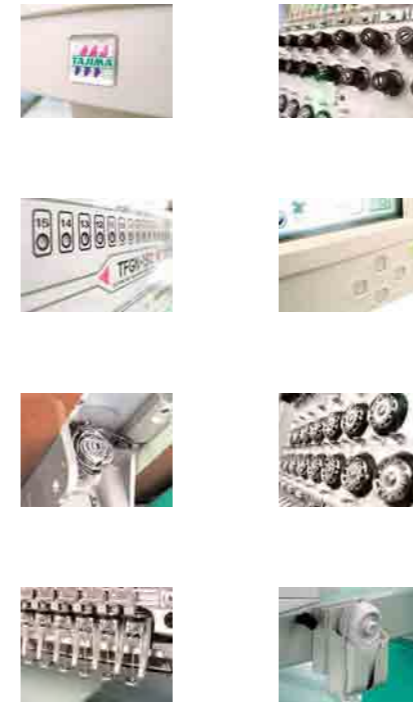
Philosophy

What is TAJIMA...

TAJIMA is always making advances toward the creation of supreme products, providing our customers with "success" and "satisfaction".

The TFGN Series has been produced on the basis of this fundamental idea.

This Series, ranked as the flagship model, is fully loaded with our own technologies to supply high quality embroidery, unsurpassable by any other manufacturer.



High-grade machines, having both advanced functions and high performance
Well-assorted lineup our models are prepared to meet your various business scenarios.



Photo:TFGN-1220

Productivity

High productivity is brought to reality

"Stable stitches"

As is well known, it is quite difficult to put them onto produced goods.

TAJIMA has brought them to reality through improvements of the quality standards for embroidery machines.

You can feel the performance the moment the machine is started.



Integrated development environment

We are always developing and producing embroidery machines on a commercial basis to lead increasingly diversifying embroidery business, anticipating our customers' needs through a wealth of experience and our broad-ranging network.

The TFGN Series has thus come into debut, collecting the demands and ideas of many customers.

Thorough examination and inspection of component parts

The quality of component parts is very important for an embroidery machine to handle delicate materials "threads".

TAJIMA has established strict inspection standards and employs only the best quality parts to realize smooth operation of our machines.

Achievement of high production efficiency

TAJIMA's high technological skills have successfully "sped up" multi-head embroidery machines.

Max. Revolution speed: 1,100 rpm

The maximum speed is achieved in only 3 seconds after the machine is started. It is maintainable even with stitches 4mm in length. The TFGN Series, satisfying both high dynamic performance and superior productivity, gives you the best performance, worthy of the name "TAJIMA's High-End Model".

Product making in view of global market

TAJIMA brand embroidery machines are well developed and ready to use anywhere in the world. Display messages on the operation panel are particularly localized in multiple languages to offer easy operation in various regional environments of the world.

Production technologies, based on the mastery skills

The machines are then assembled, using exclusive jigs and measuring equipment to minimize errors to the limit. Master craftsmanship is found in all aspects of the assembly process. You can see and check the difference, judging by the stitching quality of the embroidery.

High stitching quality is the determining factor that signifies the performance of embroidery machines

The computer-controlled driving systems of an embroidery machine always keep the rotating speed at the best-suited level according to embroidery data. This improves the quality of embroidery as well as increases productivity. Take up an embroidered piece and see the exquisite finish quality stitch by stitch.

Outstanding durability and performance

High stitching quality stays unchanged through many years due to our consistent production system from parts manufacturing to machine assembly.

TAJIMA supports your embroidery business for many years to come.

Supplying high quality service and technical support

TAJIMA's global service activities are supported by a partnership with overseas distributors in a network of over 50 countries around the world.

Even if something unexpected should happen to our customers, our experienced distributors will provide immediate care. You may use **TAJIMA** brand machines with a sense of security.



Various kinds of technology and information are coordinated on embroidery machines through computer-aided development and new product design.

R & D



An inspection is carried out, using testing equipment, which does not allow for an error of even 1/1000mm for measuring and positioning holes to insert a shaft and others.

Touch probe inspection

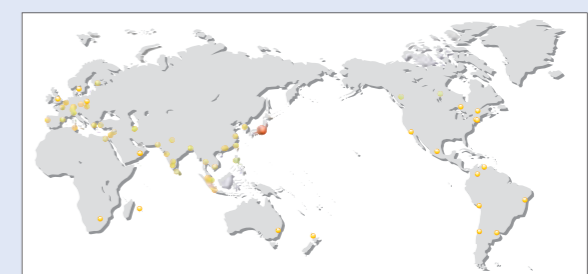


Various kinds of jigs are used for parts assembly in order to produce an embroidery machine, carefully assembled one by one to maintain stable manufacturing quality.

Assembling



High-speed embroidery machine, running at a maximum of 1,100 rpm. (The screen is composed of an inset picture.)



Tajima keeps up a reliable technical support system to supply our customers with high quality products anywhere in the world.

Worldwide service network

* Applicable languages: Japanese, English, Chinese, Italian, Spanish, German, French, Portuguese, Czech, Russian, and Turkish (as of February 2006).

The most advanced technologies to guide the way to the future...

Threads and Needles

the two essential factors of embroidery.

TAJIMA's state-of-the-art technology controls

both of them skillfully and allows you to create

high quality embroidery.

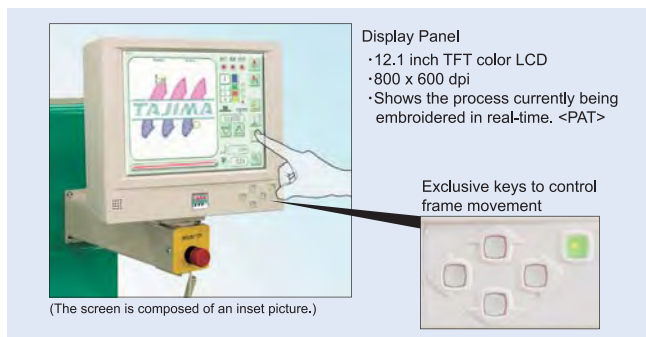


Operation panel

A 12.1 inch color LCD monitor, exclusive graphical user interface (GUI) and touch panel <PAT.P> are put together to improve operational convenience even more.

Also a 32bit CPU is installed to increase image-rendering speed on the screen (improved by 80%, compared with our conventional product).

A more comfortable, user friendly working environment is brought to you by TAJIMA.



Jog remote-controller <PAT>

The Jog remote-controller consolidates the functions to move the embroidery frame, independent of the operation panel.

This enables frame travel operation closer to the needles.

This allows a design start position to be pinpointed accurately even if the operation panel is located away from the needles.

This makes for precision positioning of a design and reduces product loss remarkably due to displacement of the start position.

Adoption of Ball screw drive system^{*1}

The ball screw drive system, used for the driving systems in precision industrial machinery, is adopted.

This system realizes smooth frame drive with very little displacement of the load and has brought about high-speed operation and an extension of the embroidery field.

This is the system if you are in need of a larger embroidery field for your business. You can easily embroider ethnic costumes, tablecloths and other large items as well.

Thread breakage detection system

A new electronic sensor has been adopted as a thread breakage detecting mechanism to monitor thread movement at all times. If the upper or under thread is broken, this system detects it in an instant and stops stitching to prevent embroidery production from continuing with broken thread. The sensitivity of the sensor is adjustable on the operation panel, depending on the embroidery conditions. <PAT.P>

Middle thread guide with thread take-up spring <PAT>

The thread take-up spring picks up excess thread and stabilizes the balance of upper and lower threads at high speed and improves thread tension. Thread breakage due to extra fine satin stitches (2mm or less), needle tip or thread untwisting, etc. has been reduced by 30 - 50% (compared with our conventional specification), and productivity has been drastically improved.

Inverter-controlled Main shaft motor

An inverter control method is adopted for precision control of the rotating speed of a multipurpose motor.

This method enables full output potential of a motor providing higher efficiency and also to increase power-saving. It also has superior torque characteristics at low speeds sufficient to deal with embroidery on thick materials.

“Cross type Z-spec. drive system” <PAT> for Jumbo design embroidery

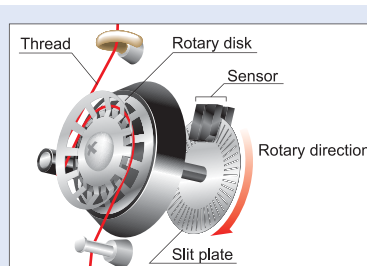
: for Jumbo design embroidery machines^{*2}

Embroidery machines have incorporated plenty of devices to meet the trend to extend embroidery designs. One of them is the cross type Z-spec. drive system, which was developed by us to minimize distortion of large-sized embroidery frames. It has enabled precision frame movement even during high speed operation.



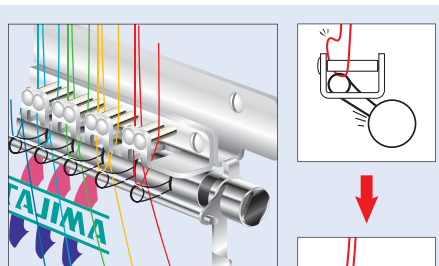
USB port
Design data input or output is available, using USB memory.
* Commercially available USB memory reader/writer is applicable.

Selectable data input/output



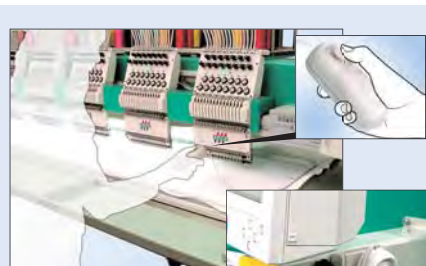
Rotary disk
The rotary disk, cut in a unique shape, rotates without slippage, according to the thread feed. The slit plate also rotates in synchronization. If the rotation is stopped for some reason, the sensor detects it and stops the embroidery machine operation in an instant.

Thread breakage detection system



The thread take-up spring draws the thread closer to the needle and has improved the response to thread take up timing.

Middle thread guide with thread take-up spring <PAT>



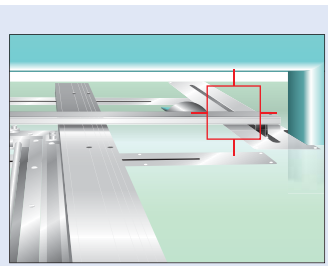
It can be put in a holder beside the operation panel when it is not used.

Jog remote-controller <PAT>



A ball screw is a screw in a shape of shaft, widely used for high precision position control of industrial machinery and the like. The embroidery frame moves accurately even at high-speed.

Ball screw drive system for X-axis



The cross type Z-spec. drive system supports extra large embroidery frames securely.

Cross type Z-spec. drive system <PAT>

^{*1} The Ball screw drive system is applicable to the TFGN Series with a total machine length of more than 5,755mm (5,845mm for cross type Z-spec. drive system). (TFGN-C Series is excluded.)

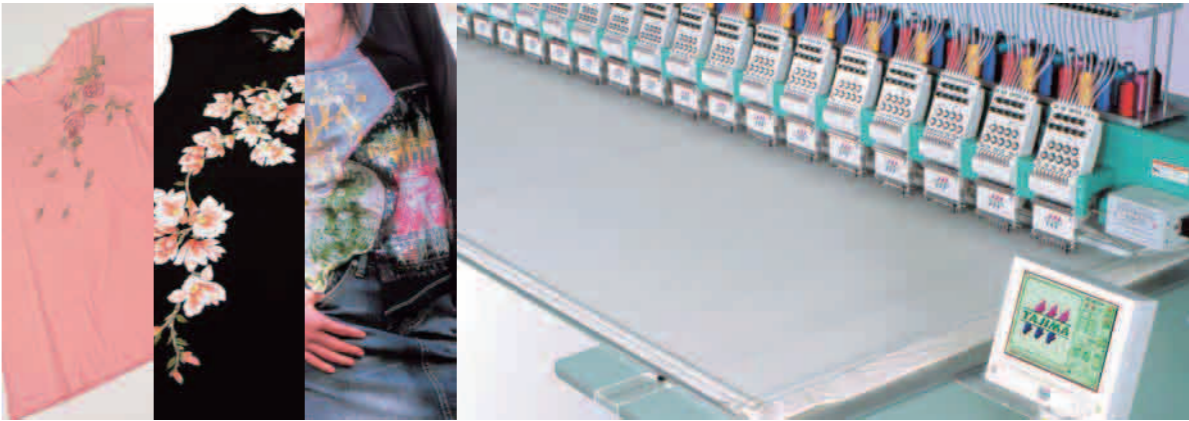
^{*2} Available for the models with an X-axis drive range of 581mm or more.

Functional & Ideal

Always keep creative innovations in mind

An embroidery machine consists of mechatronics that keep in balance with numerous functions, supported by the technology frontier and various inventions that are created for the convenience of machine operators.

You will be satisfied with the TAJIMA's craftsmanship for sure.



Spiral tube, Take-up lever guard <PAT>

Spiral tubes between the upper thread course stand and individual tension base protect the upper threads against environmental wind, a breeze generated by an air conditioner, etc. and causing threads entangling.

Furthermore, originally developed covers are mounted over the take-up levers to prevent threads from being entangled during high-speed operation and to improve safety in work surroundings.

Satin stitch length compensation

The embroidery finish of satin stitches may sometimes differ in values, compared with original design data, depending on the embroidery conditions like very stretchy fabrics.

Satin stitch length can be increased or decreased for compensation with ease on the operation panel.

A One touch switch to retract embroidery frame <PAT.P> : for Jumbo design embroidery machines *1

A Jumbo design embroidery machine has a larger table depth and the operator needs to move the embroidery frame aside on the operation panel to make way for threading or other peripheral functions. An exclusive switch is added under the table to retract the embroidery frame temporarily to an arbitrary position to reduce the workload on the operator.

Cleanup function

A simple setting on the operation panel removes unnecessary fine stitches (0.5mm long or less) contained in the design data.

Removal of these fine stitches will decrease thread breakage that leads to decreased production due to machine downtime.

"Condition memory" function, including stitch conditions

Stitching conditions (design start position, color sequence etc.) can be output to a floppy disk along with the design data.

The saved stitch conditions are applicable to reproduction as they reduce setting time.

Production management function

Production management information like stitch counts of memorized designs, time required for embroidery process, remaining stitches up to preset halt (preliminarily set stop position) can be checked on the operation panel. This will help you get a better grasp of production efficiency.

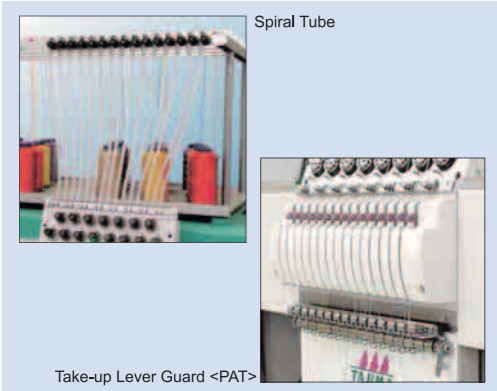
Embroidery space trace function

This function moves only the frame on the contour of an embroidery design and helps you check if a design will fit in a desired embroidery space before sewing it.

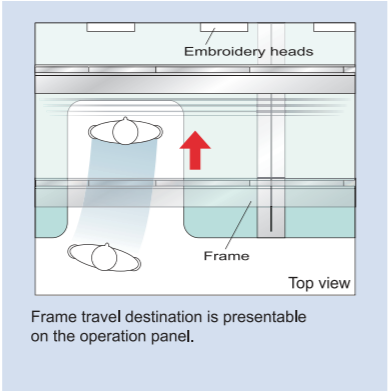
This will prevent needles from hitting the frame by mistake during the embroidery operation.

Power failure control measures

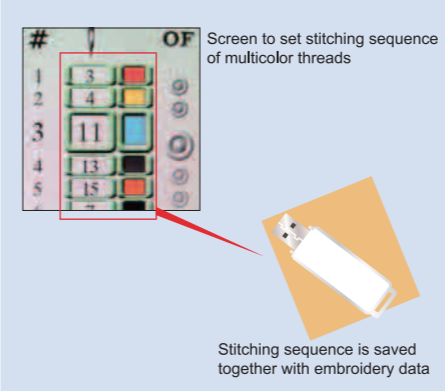
Even if the power supply is cut off in the middle of embroidery due to power failure or other reasons, the embroidery position is saved in memory so the machine can resume with a simple operation after the machine is reset. The embroidery process can be resumed in the position just before the power failure to save product loss.



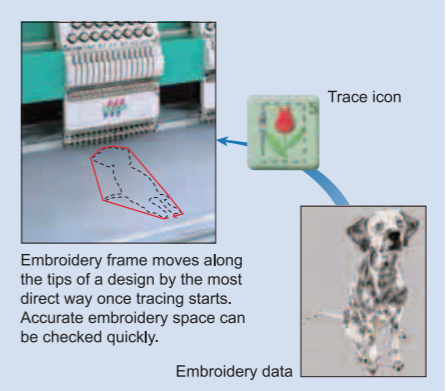
Careful attention to improvement of safety and prevention of thread tangling



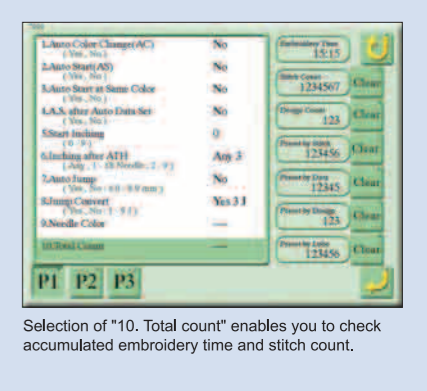
How embroidery frame is retracted



Condition memory



Function to "Trace" embroidery space



Production management function

*1 Embroidery frame retracting switch is available on TFGN Series machines with an Y-axis embroidery space of 750mm or more. (TFGN-C Series is excluded.)

Added value

In pursuit of added value - something extra...

A wealth of options is available to meet diversified needs in your embroidery business.

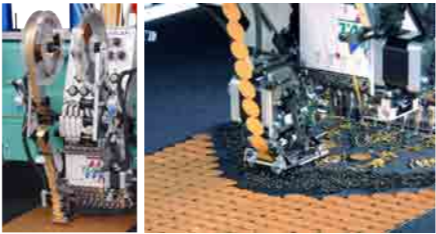
TAJIMA's unique embroidery frame driving methods are also ready to be selected.



Options

Sequin device IV

Sequins in diameter of 2 -22mm are applicable!
Wide range of sequins from small to large sizes or in various shapes like noncircular or eccentric type are applicable for creation of you designs as needed, depending on your applications.



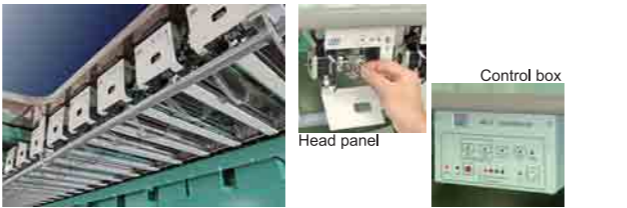
Sequin device III twin type <PAT.P>

It is now possible to embroider a max. of 4 different sizes, shapes and colors on each head!
2 kinds of sequins on one side can be interchanged and embroidered at high speeds as desired. This next-generation sequin device permits more design options and improves production efficiency.



Automatic bobbin changer II (UBCII)

The push of a single button replaces the bobbins of all the heads at one time.
While manual replacement of the bobbin for 20 heads takes about 8 minutes, replacement by UBCII takes only 19 seconds, 95% less than manual time.
Presetting new bobbins for replacement while the embroidery machine is running increases productivity even more.



Automatic frame changer (AFC)

Powerful and high-performance: TAJIMA' s original AFC system incorporates a fabric clamping device <PAT.P> to hold a fabric, fabric snaking feed prevention mechanism, and a fabric stretching mechanism allow you to create delicate and sophisticated continuous embroideries.



Zigzag cording device

This device is just install to a normal embroidery head and arrange your regular designs with delicate cording embroidery.



High-speed cording device (KB-2M)

Various kinds of cording materials can be stitched at high speeds.
Replacement of attachments also enables loop stitch embroidery. Simple adjustment of the height creates variations in stitch volume and expands the variety of your embroidery applications.



Boring device

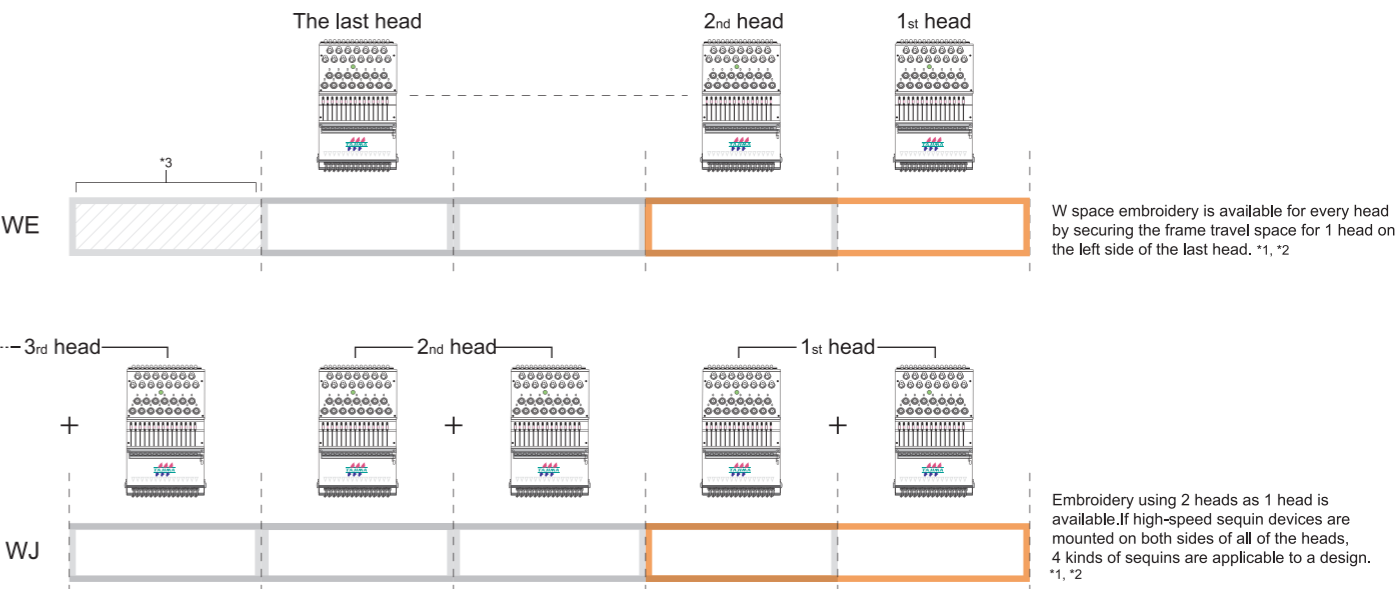
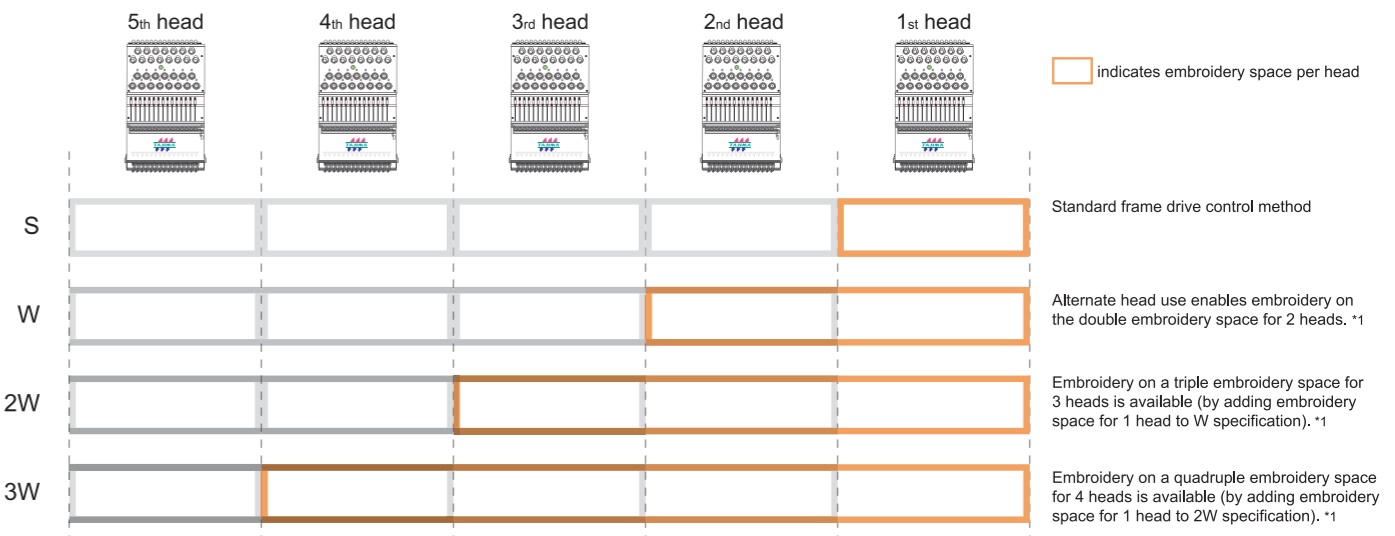
A special knife bores a hole in a fabric and then a needle and thread sew open the hole. The size of the hole is adjustable and the sharp can be created through the process of digitizing to meet your desires.
This device is applicable to all normal embroidery heads and easily increases the value of embroidered products.



Frame Drive System

Selectable frame drive control

Based on the regular frame drive control type "S", wide-ranging frame drive control types are selectable as "W" or "2W" to make up a design in a double or triple embroidery space.



*1 Embroidery on the standard S specification is also available.

*2 Embroidery space is the same as that of W specification.

*3 is a special drive range, added only to WE specification to enable W space embroidery even with the last head.



<http://www.tajima.com>

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