

your choice
SHIMA SEIKI

MACH2S

WHOLEGARMENT® Computerized Flat Knitting Machine



WHOLEGARMENT® CAPABILITY WITH SPEED AND VERSATILITY.

Like the NewSES-S-WG WHOLEGARMENT® machine on which it is based, Shima Seiki's MACH2®S is an extremely flexible machine which realizes quality knitting in a range of production styles. As a conventional shaping machine, it is capable of all-needle knitting in its available range of 12 to 16 gauge, while WHOLEGARMENT® knitwear can be produced in half-gauge fabrics. As the name "MACH"—the unit for the speed of sound—suggests, the MACH2®S sets itself apart with its speed and productivity. The MACH2®S adopts the new R2CARRIAGE® system, increasing maximum knitting speed to 1.6m/s, and more notably, permitting quicker carriage returns. Combined, they yield significantly shorter knitting times. Shima Seiki's exclusive Yarn Carrier Kickback Device (optional) also enhances productivity by eliminating empty carriage courses for knitting intarsia and integral knits. Additional improvements include a new control unit that is built-in to the machine for simplified shipping and installation, easier maintenance, and more efficient use of space. A USB memory inter-

face and a backup power supply are standard. MACH2®S also features an overall height lowered by approximately 150mm for improved access to top tension units. Other features include i-DSCS® Digital Stitch Control System with Intelligence, as well as adjustable Second Stitch for high-quality production through the use of loose/tight stitches. MACH2®S is even capable of gaugeless knitting whereby a number of different gauges can be knit into a single garment. The great versatility of the MACH2®S makes it the perfect choice for adopting WHOLEGARMENT® production while maintaining flexible support of varying market demands.

R2CARRIAGE®

The new R2(Rapid Response) CARRIAGE® System increases maximum knitting speed. More importantly, the R2CARRIAGE® achieves quicker carriage returns after each course. Combined, these im-

provements result in significant increases in productivity depending on the gauge and type of fabric.

i-DSCS®

Available with MACH2®S are both the world-famous DSCS® Digital Stitch Control System and i-DSCS® "with Intelligence." i-DSCS® carries over the benefits of DSCS®, with even better performance. Whereas DSCS® is a passive system which controls stitch length and yarn tension by limiting yarn-feed, i-DSCS® has the capability to actively control yarn-feed in both feed and retrieval directions as necessary, resulting in even higher quality and greater productivity using a wider variety of yarns. Like DSCS®, i-DSCS® provides consistent quality among different production batches and repeat orders, and is crucial to the precision knitting required in WHOLEGARMENT® production.



Knitting Width



Knitran Systems



Ultra-Lightweight Carriage



Belt-Drive Operation



R2Carriage®



Tough Needle Bed



Gauge Range



Gaugeless Knitting



WHOLEGARMENT® Knitting



Solenoid Needle Selection



Stitch Presser



Full-Time Sinker



Yarn Gripper and Cutter



DSCS®



i-DSCS®



Yarn Carrier Kickback Device (option)



Setup Device



Takedown Rollers



Dust Cleaner



Schedule Knit



Back-Lit LCD Panel



Network Interface



Pattern Memory

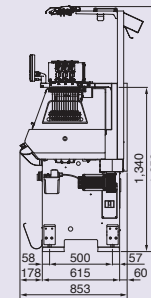
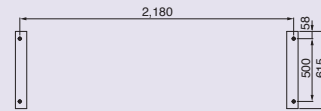
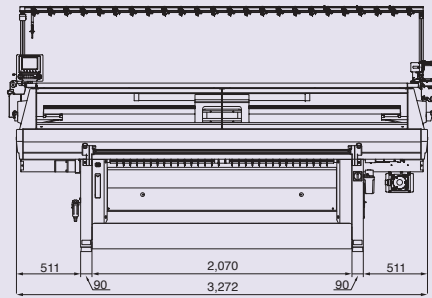


USB Memory Interface



Back-up Power

DIMENSIONS



Average Weight

MACH2[®]S 1,200kg (2,640 lbs)

Actual weight is dependent upon gauge and optional equipment.

All dimensions are in millimeters.

SPECIFICATIONS

Type	MACH2 [®] S
Gauge	12 · 14 · 16
Knitting width	Variable stroke. Max 72" (183cm)
Knitting speed	Max 1.6m/sec. Knitting speed varies according to various knitting conditions. Variably adjustable speed levels. 16 additional programmable speeds.
Stitch density	120 levels, electronically controlled.
Second stitch	Motor-controlled second stitch cam allows individual adjustment of loose/tight stitches for shaping.
Racking	Motor-driven. Max 1.5-inch racking in each direction (3 inches total).
Knitting system	Triple KNITRAN [®] system. Single R2Carriage [®] system.
Transfer	Simultaneous transfer, front and back, independent of carriage direction. Split stitch possible.
Sinker system	Spring-type moveable full sinker system for gentle yarn handling.
Stitch presser	Special motor-driven system allows individual adjustment for on/off in knit and transfer.
Needle selection	Full jacquard selection via special solenoid actuators.
Setup device	Takedown comb with special setup needles.
Takedown device	Main / sub rollers. Changeable 99 levels, automatically adjustable on each level. Automatic opening and closing.
Yarn cutter	Single-unit system includes 1 yarn cutter and 2 yarn grippers. Both sides standard.
Air Splicer	Instant color changes using pressurized air. 8 colors per unit. Optional ¹ .
DSCS [®]	Consistent loop length by digital control method. Left side standard. Yarn feed roller on Left side double roller standard. 8 positions on Left side. Left side yarn stopper device.
i-DSCS [®]	DSCS [®] with Intelligence. Actively controls yarn feed in both feed and retrieval directions. Right sides standard. Yarn feed roller on Right side standard. 8 positions on Right side ² .
Side tensions	12 on each side
Yarn carriers ³	13 carriers
Yarn carrier kickback	Kickback device using servo drive. Eliminates the need for empty courses. 2 tracks on each side (4 tracks total) as basic configuration. Optional ^{4,5} .
Top tensions	24 tension devices. One-touch easy threading. Large knots cause machine stop. Small knots cause 0-9 courses at specified knot detection speed, then automatically resume at set speed.
Stop motion	Yarn break, large knot, wraparound check, shock detection, piece count, over-torque, program error, etc.
Drive system	Belt drive. AC servo motor. No lubrication necessary.
Cleaner	Special blower-operated cleaner.
Safety devices	Full safety cover for noise-suppression and dust-proofing with stop motion sensor and interlock mechanism. Stop button. Power supply disconnecting device. Ultra-low speed "crawl" setting. CE Mark. Indicator lamps (see below).
Operation lamp	Green / normal operation. Flashing green / normal stop. Flashing amber / abnormal stop.

CONTROLLER

Data input	USB memory interface. Ethernet 10 / 100 BASE-T network interface.
Pattern memory	25,165,824 bits (1,024 wales × 8,192 addresses)
Control unit	Built-in controller. Stored program for flat knitting machine.
Control display	Monochrome LCD panel. Editing possible via display panel operation. Available in English, French, Italian, Spanish, Portuguese, German, Turkish, Chinese and Japanese.
Back-up power	Power supply for resuming knitting after power failure.
Power	3 phase AC200V ±10% 2.2KVA

OPTIONS : (1) Air Splicer. (2) i-DSCS[®] (Left side). (3) Intarsia carrier. (4) Yarn carrier kickback device. (5) Additional yarn carrier kickback device (2 additional tracks on each side for 8 tracks total).

Fully Fashioned High-Speed Knitting Machine

your choice
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Please contact your nearest authorized sales representative for the latest information.



SAFETY NOTICE

In order to ensure safe operation of the equipment, please review all operation manuals carefully before use.

MACH2S Printed in Japan