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WHOLEGARMENT Computerized Flat Knitting Machine

MACH2X



HIGHLY EFFICIENT ULTRAFINE GAUGE WHOLEGARMENT PRODUCTION.

SHIMA SEIKI's MACH2X is a WHOLEGARMENT specialty machine that features 4 needlebeds and SHIMA SEIKI's original SlideNeedle. It can knit beautifully shaped, high-quality WHOLEGARMENT products which conform to the body for improved comfort and a more elegant silhouette. As the "MACH" name suggests, improvements in speed and productivity are dramatic. MACH2X achieves a maximum knitting speed of 1.6 meters per second. The R2CARRIAGE system furthermore permits quicker carriage returns for higher efficiency per knitted course. Split Stitch technique also allows efficient knitting by eliminating empty courses. Additionally, MACH2X123/153 features 18L gauge capability whereby a special large-hook version of the SlideNeedle is used for knitting 15-gauge fabrics at 18-gauge needle pitch for very high productivity when knitting ultrafine gauge garments. The tighter needle pitch also allows for a tighter fabric especially for ribs, contributing to higher-quality WHOLEGARMENT items. Additional improvements include a 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 interface and a backup power supply are standard. MACH2X also features a lower overall height for improved access to top tension units. Dramatic improvements in both quality and productivity make MACH2X an ideal machine for high-quality WHOLEGARMENT production.

SPECIFICATIONS

Type	M123X	M153X	M173X
Gauge	8L · 15L · 18L (L:Large hook)		5S · 8L · 15L (S: Standard hook, L: Large hook)
Knitting width	Variable stroke, Max 50" (125cm)	Variable stroke, Max 60" (150cm)	Variable stroke, Max 68" (170cm)
Knitting speed	Max 1.6m/sec. (5S:Max 1.2m/sec., 8L:Max 1.4m/sec.) Knitting speed varies according to yarn, gauge and other knitting conditions. Speed can be programmed for 16 separate categories.		
Stitch density	120 levels, electronically controlled		
Second stitch	Motor-controlled second stitch cam allows individual adjustment of loose/tight stitches for shaping. Lower carriage only.		
Racking	Motor-driven. Max 1.5-inch racking to each side (3 inches total) for rear needle beds and loop presser bed. Racking of upper and lower rear beds and loop presser bed are performed as one.		
			Double racking. Max 1.5-inch racking to each side (3 inches)

		total) for front needle beds. Racking of upper and lower front beds is performed as one.
Knitting system	Ultra compact 3-system (1 knitting system + 2 transfer systems), single carriage (R2CARRIAGE system)	
SlideNeedle	Two-piece slider mechanism enables complex transfers. Mounted in the center of needle groove to yield perfectly symmetrical loop formation for knitting the highest possible quality fabrics.	
Transfer	Lower needlebeds: Simultaneous transfer, front and back, independent of carriage direction. Split stitch possible without exchanging yarn carriers. Upper needlebeds: Simultaneous transfer between either upper beds to opposite lower beds, independent of carriage direction.	
Sinker system	Fixed sinker system	
Yarn guide	Moveable yarn guide (5S only)	
Stitch presser	Special motor-drive. On/off adjustment. Press-down amount can also be set according to knit, transfer, etc.	
Loop presser	Individual selection and independent control. Loop presser bed positioned above upper rear needle bed. 5S: Equipped with 2 loop pressers for each needle.	
Needle selection	Electromagnetic direct selection	
Setup device	Takedown comb with special setup needles	
Pulldown device	Special pulldown mechanism with independent operation of front and rear. Precise control over entire garment width in 1.5-inch increments.	
Exit rollers	Special rollers for fabric pulldown and release. Consists of two rollers.	
Yarn cutter	Single-unit system includes 1 yarn cutter and 2 yarn grippers. Both sides standard. Lint remover.	
Air Splicer(1)	Instant color changes using pressurized air. 2 units on left side; 1 unit on right side. 8 colors per unit.	
DSCS	Digital Stitch Control System. Consistent loop length by digital control method. 8 lightweight, compact encoders (8L, 15L and 18L only). Left side standard.	
i-DSCS+DTC	DSCS with Intelligence+Dynamic Tension Control. Actively controls yarn feed in both feed and retrieval directions. Electronic control of yarn-feed tension permits high-speed knitting. 3 units. Right side standard (5S: 4 units. Both sides standard) (2).	
Yarn feed roller	8 positions on each side (5S: 16 positions on each side). Left side double roller standard (8L, 15L and 18L only). 8 positions on left side yarn stopper device (8L, 15L and 18L only).	
Side tensions	12 on each side (5S: 16 on each side). Brake disk with multi-step adjustable dials (8L · 15L · 18L only).	
Yarn carriers	12 normal carriers (3)(4)	
Top tension	24 units. 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, fabric pileup, shock detection, piece count, over-torque, program error, etc.	
Drive system	Belt drive. AC servo motor. No lubrication necessary.	
Cleaner	Special blower-operated cleaner. Automatic operation available upon knitting a set number of pieces. Manual operation also available.	
Safety devices	Full safety cover for noise-suppression and dust-proofing with stop motion sensor and interlock mechanism. Emergency stop switch. Emergency power off device. Ultra-low speed "crawl" setting. CE Mark. Operation lamp (see below).	
Operation lamp	Green/normal operation. Flashing green/normal stop. Flashing amber/abnormal stop.	

CONTROLLER

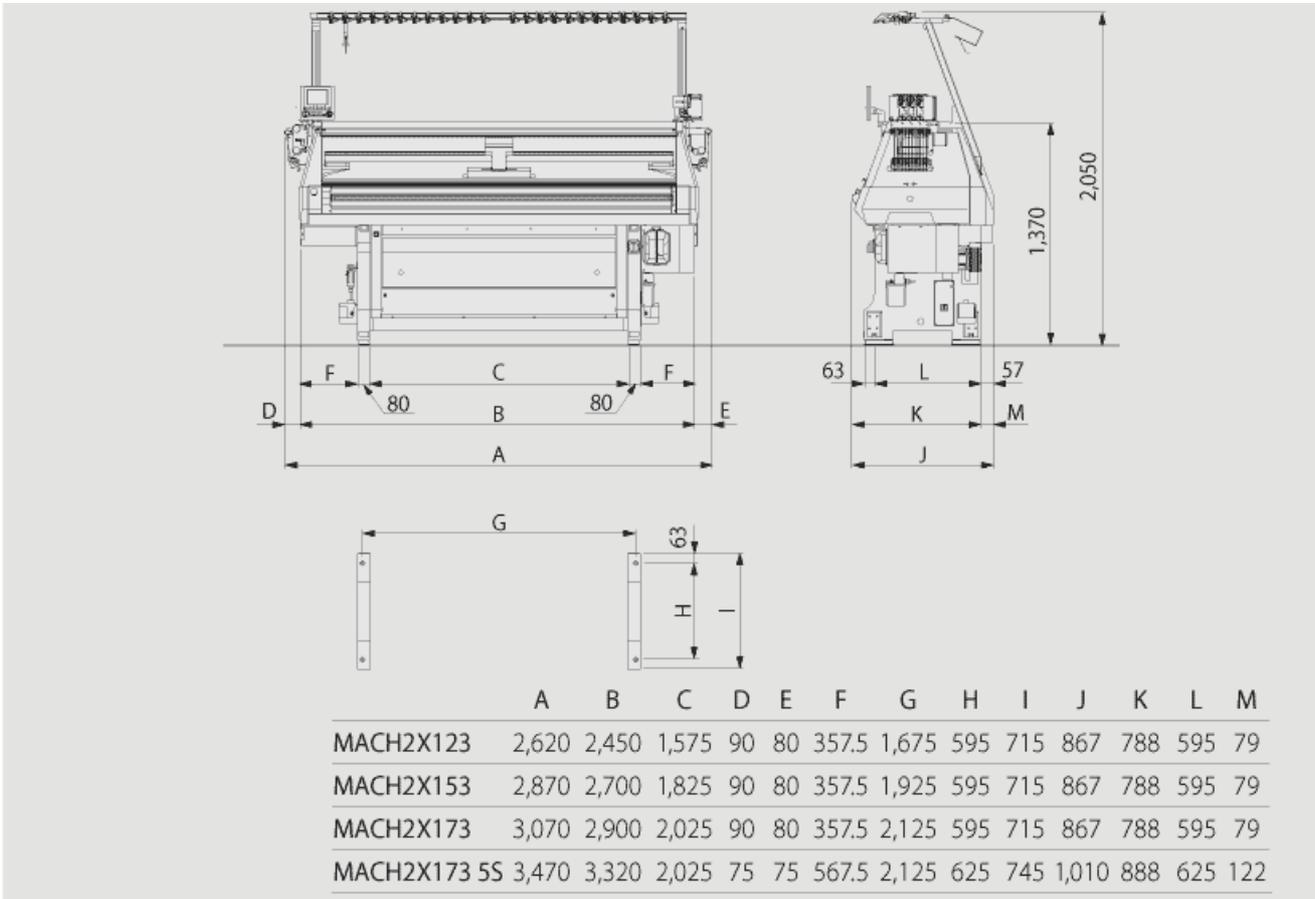
Data input	USB memory interface. Ethernet 10/100 BASE-T network interface.
Pattern memory	50,331,648 bits (1,024 wales x 16,384 addresses)
Control unit	Built-in controller. Stored program for flat knitting machine.
Control display	Monochrome LCD panel. Editing possible via display panel operation. Help/Message function (for cleaning and lubrication). Available in English, French, Italian, Spanish, Portuguese, German, Turkish, Chinese, Korean and Japanese.
Back-up power	Power supply for resuming knitting after power failure.
Power	Single phase AC220V/230V(200-250V) 3.0kVA

- OPTIONS:
- (1) Air Splicer (8L and 15L only)
 - (2) i-DSCS+DTC 4 units on each side (8L, 15L and 18L only)
 - (3) Plating Carrier supported (8L, 15L and 18L only)
 - (4) Inlay carrier (8L, 15L and 18L only)

AVERAGE WEIGHT Actual weight is dependent upon gauge and optional equipment.

	M123X	M153X	M173X	M173X 5S
Kg (lbs.)	1,089 (2,395)	1,310 (2,882)	1,400 (3,080)	1,565 (3,443)

DIMENSIONS All dimensions are in millimeters.



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SCG122SN
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