your choice
SHIMA SEIKI

SWG
FIRST
Next-Generation Computerized Flat Knitting Machine

THE NEXT GENERATION IN COMPUTERIZED FLATBED KNITTING.

A synthesis of all of Shima Seiki's experience and know-how, the SWG®-FIRST® series "Next Generation" computerized flatbed knitting machines offer tremendous capability previously unimagined in the world of knitting. Everything from full-fashioning, rib shaping to 3-dimensional shaping, as well as WHOLEGARMENT® production can be performed. This all-purpose capability is made possible through the development of our revolutionary new SlideNeedle™ which offers remarkable improvements in product quality, variety and productivity. Other features such as the Contra-Sinker, Pulldown Device and Yarn Carrier Kickback Device all contribute to even further distinction as the knitting machine for the 21st Century. FIRST® is available in three different bed-lengths, as well as triple- or four-cam versions for even more flexibility.

SWG
FIRST
Next-Generation Computerized Flat Knitting Machine

F123/124 F153 F183/184
50" 62" 72"
Knitting Width

F123/153/183 F124/184
3 4
Knitran® Systems

Ultra-Lightweight Carriage

Belt-Drive Operation

Tough Needle Bed

F183M12/F184L12
Gaugeless Knitting

12-Way Technique

WHOLEGARMENT® Knitting

Electromagnetic Needle Selection

SlideNeedle™

Transfer Jack

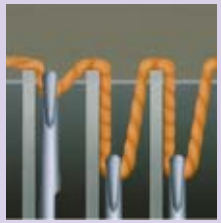
Stitch Presser

Loop Presser

F183/F184
Contra-Sinker

The All-New SlideNeedle™ and Contra-Sinker System

Shima Seiki has reinvented the most basic element of knitting-the needle. The new SlideNeedle™ is the result of a thorough re-evaluation of the 150-year old design of the conventional latch needle, and offers knitting possibilities never imagined before. A flexible two-piece slider mechanism splits and extends beyond the needle hook for increased potential especially in complex transfers. Using the slider mechanism for transfer effectively eliminates the transfer clip, allowing the needle to be mounted in the center of the needle groove. The SlideNeedle™ thereby achieves perfectly symmetrical loop formation for knitting the highest possible quality fabrics. In addition, the new Contra-Sinker actively offsets, and consequently reduces, the total movement of the SlideNeedle™ with a counter-movement. The shallower angle of approach distributes yarn tension more evenly, reducing scuffing and thereby preventing yarn breaks. Together, the SlideNeedle™ and Contra-Sinker achieve better quality while using a wider variety of yarns, not to mention significant improvements in productivity.

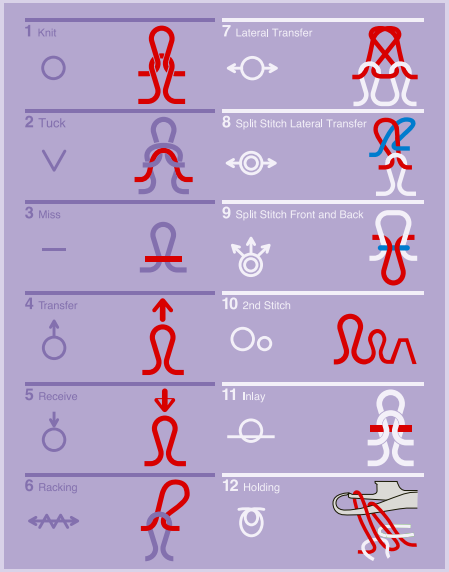


Conventional latch needles offset in grooves

Slide needles centered in grooves

12-Way Technique

FIRST®'s SlideNeedle™ doubles the number of available knitting techniques from six to twelve variations. With both front and back beds in operation, this effectively offers 144 potential combinations of techniques as compared to 36 combinations possible with 6-way technique. As a result, all-new structures and sophisticated patterns never before possible raise knitwear to a higher level, even expanding its market range to approach the area of woven products.



Gaugeless Knitting

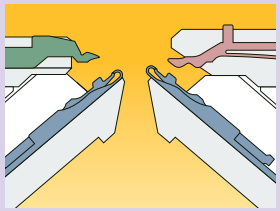
The new SlideNeedle™ does away with the concept of the fixed "gauge" by permitting an assortment of gauge sizes to be knit "on-the-fly" in a single garment. This allows the freedom to handle changing seasons and shifting trends without investing in a machine for every gauge or resorting to the complex, time-consuming task of gauge conversion. Product variety is also vastly increased by achieving interesting textures and sophisticated visual patterning effects. Unique Split Stitch techniques made possible with the SlideNeedle™ allows smoother gauge-to-gauge transitions which distinguish our gaugeless knitting from other so-called "multiple gauge" applications. FIRST® is available with three different SlideNeedle™ hook sizes (Large, Medium and Standard) for greater control while knitting each gauge range.

Pulldown Device

FIRST®'s new computer-controlled takedown system consists of front and rear panels over which tiny pins are distributed for separately controlling takedown tension for the front and back when knitting WHOLEGARMENT®. In addition, each panel is separated into 1.5-inch sections which can be individually controlled for specific tension control across the entire width of the garment. This precise control over takedown tension results in a more dimensionally accurate, higher quality garment which conforms better to the shape of the torso.

Loop Presser Bed and Transfer Jack Bed

FIRST® features two extra beds mounted above the conventional V-shaped needle beds. The loop presser bed is located above the rear needle bed, and features an improved presser system which works on individual loops for greater control of fabric holddown. The transfer jack bed is mounted above the front needle bed. From there, transfer can be made to and from both front and rear needle beds. The transfer jack bed can also be racked for a maximum of 1.5 inches to each side (3 inches total), and on some models can be split for individual left-right racking control.



Yarn Gripper and Cutter

DSCS®

option on F153/F183/F184
i-DSCS®

Yarn Carrier Kickback Device

Setup Device

F123/F124
Takedown Rollers

F153/F183/F184 option on F123/F124
Pulldown Device

Automatic Dust Cleaner

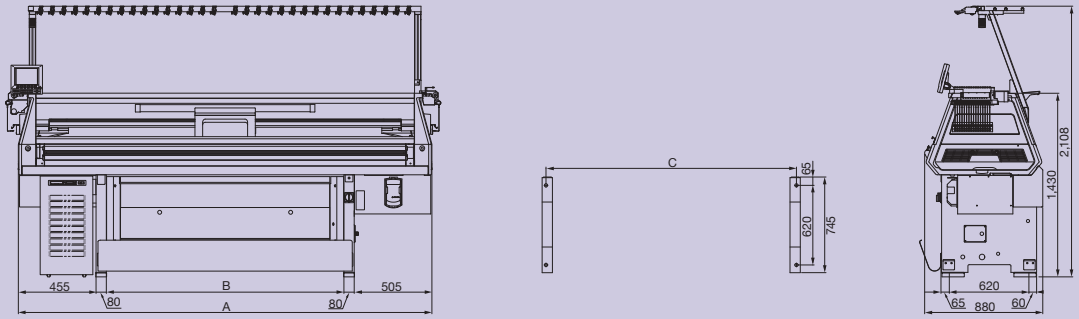
Schedule Knit

Back-Lit LCD Panel

option
Network Interface

Pattern Memory

DIMENSIONS



Average Weight

SWG FIRST 123/124	1,252kg (2,754 lb)
SWG FIRST 153	1,468kg (3,230 lb)
SWG FIRST 183/184	1,579kg (3,474 lb)

Actual weight is dependent upon gauge and optional equipment.

	A	B	C
SWG FIRST 123/124	2,670	1,550	1,650
SWG FIRST 153	2,970	1,850	1,950
SWG FIRST 183/184	3,220	2,100	2,200

All dimensions are in millimeters.

SPECIFICATIONS

Model	F123	F124	F153		F183	F184
Type	S12	S12	S14	S18	M12	L12
Needle hook size	Standard				Medium	Large
Needle pitch (mm)	2.1		1.8	1.4	2.1	
Knitting width	Variable stroke. Max 50" (126cm)		Variable stroke. Max 62" (156cm)		Variable stroke. Max 72" (180cm)	
Knitting speed	Max 1.3m/sec. Knitting speed varies according to various knitting conditions. Variably adjustable speed levels. 16 additional programmable speeds.					
Stitch density	70 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) for front and rear needle beds, transfer jack bed and loop presser bed. Racking of rear needle bed and loop presser bed are performed as one. Transfer jack bed is split for individual racking control.					
Knitting system	Ultra compact KNITRAN® system + holding cam. Single carriage.					
	3-system	4-system	3-system			4-system
Transfer	Front-back : Simultaneous transfer, independent of carriage direction. Split stitch. Horizontal split stitch. Upper-lower : Lower front and rear (needle beds) ⟷ upper front (transfer jack bed).					
Sinker system	Fixed Sinker				Contra-Sinker	
Stitch presser	Special motor- driven system allows individual adjustment for on/off in knit and transfer.					
Loop presser	Individual selection possible. Positioned on upper rear loop presser bed.					
Needle selection	Electromagnetic direct selection.					
Setup device	Takedown comb with special setup needles. Full-width operation. Rear comb (optional[1]) : Adjustable working width.					
Takedown device	Main/sub rollers. Changeable 99 levels, automatically adjustable on each level. Automatic opening and closing (F123/F124 only).					
Pulldown device	Special pulldown mechanism with independent operation of front and rear. Adjustable working width. Adjustable tension. Optional on F123/F124[2].					
Exit rollers[4]	Special rollers for fabric pulldown and release. Consists of two rollers. Optional on F123/F124[3].					
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[5].					
DSCS®	Consistent loop length by digital control method. Left side standard[6]. Left side double yarn feed roller standard[7]. Yarn feed positions: 8[8] (F123/F124/F153) or 10 (F183/F184).					
i-DSCS®	–		DSCS® with Intelligence. Actively controls yarn feed in both feed and retrieval directions. 16 positions. Optional[9]			
Side tensions	12 on each side[8]				16 on each side	
Yarn stopper	Positions on left side[10]: 8[8]				Positions on left side[10]: 10	
Yarn carriers[11]	12 carriers[8]				16 carriers	
Yarn carrier kickback[12]	Kickback device using servo control. 2 tracks on each side (4 tracks total) as standard configuration.					
Top tensions	24 tension devices[8]				32 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. Automatic operation available upon knitting a set number of pieces. Manual operation also available.					
Safety devices[13]	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.Indicator lamps (see below).					
Operation lamp	Green/normal operation. Flashing green/normal stop. Flashing amber/abnormal stop.					

CONTROLLER

Data input[14]	3.5" MO disk. 3.5" floppy disk.
Pattern memory	25,165,824 bits (1,024 wales × 8,192 addresses)
Control system	Stored program for flat knitting machine.
Control display	Monochrome LCD panel. Editing possible via display panel operation. Available in English, French, Italian, Spanish, German, Turkish, Chinese and Japanese.
Power	3 phase AC200V ± 10% 3.0KVA

OPTIONS : (1) Rear comb for setup device. (2) Pulldown device (F123/F124). (3) Exit rollers (F123/F124). (4) Rubber strips for exit rollers. (5) Air Splicer (F153S14/F183/F184 only). (6) Right side DSCS®. (7) Right side yarn feed roller. (8) Upgrade for yarn feed positions, side tensions, yarn stopper positions, yarn carriers and top tension devices (F123/F124/F153S only). (9) i-DSCS® (F153/F183/F184 only). (10) Right side yarn stopper. (11) Intarsia option. (12) Additional yarn carrier kickback device (2 additional tracks on each side for 8 tracks total). (13) CE Mark. (14) Network interface.

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

Fully Fashioned High-Speed Knitting Machine

your choice
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