

SWG 041N/061N/091N

WHOLEGARMENT® Computerized Flat Knitting Machine



WHOLEGARMENT® ACCESSORIES AND BEYOND.

The original SWG®041 opened up a whole new genre of WHOLEGARMENT® production, with its compact 16-inch knitting width specially designed for producing a range of WHOLEGARMENT® accessory items. Gloves, socks, five-toe socks, hats, mufflers, leg warmers, neck-ties and other fashion accessories could all be produced in their entirety, with no sewing or linking required*. As a glove knitting machine, SWG®041 was especially unique, with its 3-D shaping capability that allowed production of gloves that conform perfectly to the human hand, complete with a front-offset thumb for the ultimate in comfort and fit. With the transfer capability of SHIMA SEIKI's own SlideNeedle™, these items could be produced with a variety of patterns, including full jacquard, intarsia, mesh and even new transfer patterns. Other innovations such as the edge yarn insertion device and individually motorized Auto Yarn Carriers also made the SWG®041 a surprisingly capable machine for its size. Now, the SWG®041 has evolved into an entire lineup of compact

WHOLEGARMENT® machines. Indicated by the N designation, the new lineup features several mechanical improvements for further efficiency, an increase in memory capacity and an expanded range of knitting widths. No longer limited to small accessory items, SWG®061N and SWG®091N provide 24- and 36-inches of knitting width respectively. Product range is increased dramatically, including a wider range of hats, childrenswear and even leggings and tanktops. The entire lineup is available with the optional Air Splicer that cuts and twists together yarns with a burst of pressurized air with split-second accuracy. Combined with the optional i-DSCS® Digital Stitch Control System with Intelligence, each yarn splice can be timed so that perfect color changes can occur exactly as programmed, for beautiful results. SWG®041N, SWG®061N and SWG®091N achieve a whole new benchmark in knitting to expand your business far beyond present limits.

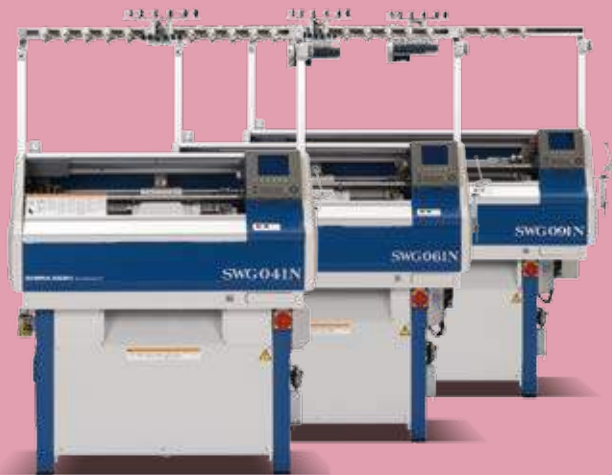
* Some designs may require partial stitching.



SlideNeedle™

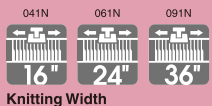
In pursuing ideal conditions for WHOLEGARMENT® production, SHIMA SEIKI has reinvented the most basic element of knitting—the needle.

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. This effectively eliminates the transfer clip and allows the needle to be mounted in the center of the needle groove, thereby achieving perfectly symmetrical loop formation for knitting the highest possible quality fabrics. The SlideNeedle™ opens the door to possibilities never imagined before through superior transfer capability and brand-new knitting techniques. Used on our flagship MACH2®X and FIRST® machines, it is a proven technology that offers virtually limitless possibilities in WHOLEGARMENT® knitting.



SWG 041N 061N 091N

WHOLEGARMENT® Computerized Flat Knitting Machine



Knitting Width



Tough Needle Bed



Gauge Range



WHOLEGARMENT®
Knitting



Solenoid Needle
Selection



SlideNeedle™



Full-Time Sinker



Yarn Gripper
and Cutter



i-DSCS®



Air Splicer



Takedown Rollers



Dust Cleaner



Schedule
Knit

Spring-Type Sinker System

SWG®041N, SWG®061N and SWG®091N feature SHIMA SEIKI's original sinker knitting system. Conventional forced-operation type sinkers are only activated upon carriage traverse in each course, and tend to subject fabrics to unnecessary stress and cause compressed loops and even yarn breakage. In sharp contrast, SHIMA SEIKI's spring-type mechanism works full-time regardless of carriage position, and provides gentle holddown movement. Consequently, significant improvements in quality and texture for complicated patterns are achieved.

Edge Yarn Insertion

With an all-new yarn insertion device, edge yarns can be cleaned up not only at the fingertips but also between fingers and toes for gloves and socks. SWG®041N, SWG®061N and SWG®091N feature a motor-driven insertion hook and cutter which ensure reliable insertion.



Top Tension and Elastic Yarn Advance Device

The top tension device on SWG®041N, 061N and 091N employs a convenient one-touch threading system for quick and easy setups. When a knot is detected during knitting, the machine stops for large knots, while small knots cause the machine to slow down. The top tension therefore serves as an effective quality control sensor. The elastic yarn advance device furthermore features a motorized unit for controlled advancing of elastic yarns, which allows production of various supporters and braces for the sports and medical fields. Yarn advance is performed from above for greater reliability and efficiency.



Yarn Feed Roller

The yarn feed roller prevents yarn breaks when knitting delicate yarns. The yarn feed roller is standard on SWG®061N and SWG®091N, and available as an option on SWG®041N.



Auto Yarn Carrier

SWG®041N, 061N and 091N feature all-new yarn carriers that are motorized and move independently. This eliminates the need for extra carriage courses for moving carriers out of the way during intarsia knitting, dramatically improving productivity and efficiency.



Control Monitor

The new control panel features a monochrome LCD monitor with improved graphic interface and ergonomics for intuitive operation. User-friendly menu-interactive function buttons permit easy input and editing as well. The menu is available in 10 languages, including English, French, Italian, Spanish, Portuguese, German, Turkish, Chinese, Korean and Japanese.



Air Splicer (optional)

Unlike our previous knotter devices which relied on a cutting and knotting mechanism, the optional air splicer uses a burst of pressurized air to instantly twist yarns together on the fly. Stripes and border patterns with multiple colors can be produced very efficiently.



i-DSCS® (optional)

Based on our renowned DSCS®—the world's first digital stitch device originally developed for SHIMA SEIKI flat knitting machines—the i-DSCS® Digital Stitch Control System with Intelligence is available as an option on SWG®041N, SWG®061N and SWG®091N. i-DSCS® has the capability to actively control yarn-feed in both feed and retrieval directions as necessary, resulting in increased stability and greater productivity as well as higher quality and a lower defect rate using a wider variety of yarns. In addition, i-DSCS® measures the amount of yarn used for each individual product, and automatically adjusts yarn consumption accordingly to achieve identical size from piece-to-piece; machine-to-machine. This product consistency yields impressive quality control among different production batches and repeat orders, and is crucial to the precision knitting required in shaping and WHOLEGARMENT® production.



Back-Lit
LCD Panel



Network Interface



Pattern Memory



USB Memory
Interface



option
Back-Up Power

SWG®041N	360kg (792lbs.)
SWG®061N	420kg (924lbs.)
SWG®091N	460kg (1,012lbs.)

	A	B	C	D
SWG®041N	1,400	1,200	840	920
SWG®061N	1,600	1,400	840	920
SWG®091N	1,900	1,700	990	1,070

SPECIFICATIONS

Type	SWG041N	SWG061N	SWG091N
Gauge	7 • 10 • 15 • 18		
Knitting width	Variable stroke. Max 16" (40cm)	Variable stroke. Max 24" (60cm)	Variable stroke. Max 36" (90cm)
Knitting speed	Max 1.5m/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	Tight stitch for tuck in intarsia and heel knitting.		
Racking	Motor-driven, 7G: Max 4-pitch racking to each side, 10G: Max 5-pitch racking to each side, 15G: Max 8-pitch racking to each side, 18G: Max 9-pitch racking to each side.		
Knitting system	Single system with transfer cams on both sides.		
Transfer	Back to front during right traverse, front to back during left traverse. Selectable normal transfer or holding.		
Sinker system	Spring-type moveable sinker system.		
Yarn guide	Moveable yarn guide.		
Fabric presser	Equipped on both front and back carriages.		
Needle selection	Full jacquard selection via special solenoid actuators.		
Takedown subroller	Adjustable. Automatic opening and closing.		
Yarn cutter	3 yarn holding hooks and 1 cutter on right side of both front and back needle beds.		
Yarn insertion	2 yarn insertion hooks and 1 cutter above needle bed.		
Elastic yarn advance device	Stepping motor controlled. Feed amount up to 500% of full knitting width (adjustable for each knitted part). Right side standard ¹ .		
Air Splicer	Instant color changes using pressurized air. 8 colors per unit. Optional ² .		
i-DSCS®	DSCS® with Intelligence. Actively controls yarn feed in both feed and retrieval directions. Optional ³ .		
Yarn feed roller	Prevents yarn breaks when knitting with delicate yarns.		
	Optional ⁴		○
Auto yarn carrier	Independent motorized yarn carriers eliminate the need for empty carriage courses. 6 carriers. Plating carrier set ⁵ .		
Top tensions	6 tension devices.		
Yarn break sensor	12 tension devices. One-touch easy threading. Large knots cause machine stop. Small knots cause 0-99 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, delivery 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 interlock mechanism. Emergency power off 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.		

Data input	USB memory interface, Ethernet 10/100 BASE-T network interface.	
Pattern memory	25,165,824 bits (512 wales x 16,384 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, German, Spanish, Portuguese, Turkish, Chinese, Korean and Japanese.	
Back-up power	Power supply for resuming knitting after power failure. Optional ⁶ .	
Power	Single phase AC200V+/-10%	1.4kVA
	1.3kVA	

your choice
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