SWG 041N/061N/091N
WHOLEGARMENT® Computerized Flat Knitting Machine
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 FIRST® and SWG™-X machines, it is a proven technology that offers virtually limitless possibilities in WHOLEGARMENT® knitting.

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’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.
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 Feeder

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 feeder furthermore features a motorized unit for controlled feeding of elastic yarns, which allows production of various supporters and braces for the sports and medical fields. Yarn feed is performed from above for greater reliability and efficiency.

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.

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.

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.

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.

Schedule Knit

Back-Lit LCD Panel

Network Interface

Pattern Memory

USB Memory Interface
Variable stroke.

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512 "wales

2 yarn insertion hooks and 1 cutter above needle bed.

Stored program for flat knitting machine.

Max 1.5m

3 yarn holding hooks and 1 cutter on right side of both front and back needle beds.

Belt drive. AC servo motor. No lubrication necessary.

Ο

Yarn break, large knot, wraparound check, shock detection, piece count, over-torque, program error, delivery error, etc.

Full jacquard selection via special solenoid actuators.

Moveable yarn guide.

Tight stitch for tuck in intarsia and heel knitting.

Green

Equipped on both front and back carriages.

Monochrome LCD panel. Editing possible via display panel operation. Available in English, French, Italian, German, Spanish, Portuguese, Turkish, Chinese, Korean and Japanese.

Special blower operated cleaner.

Spring-type moveable sinker system.

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Independent motorized yarn carriers eliminate the need for empty carriage courses. 6 carriers.

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Adjustable. Automatic opening and closing.

Full safety cover for noise-suppression and dust-proofing with interlock mechanism. Power supply disconnecting device. Ultra-low speed "crawl back to front during right traverse, front to back during left traverse. Selectable normal transfer or holding.

Single system with transfer cams on both sides.

adjustable for each knitted part

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

Net 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. Power supply disconnecting device. Ultra-low speed "crawl" setting. Indicator lamps (see below).

Operation lamp


CONTROLLER

Data input

USB memory interface. Ethernet 10/100 BASE-T network interface.

Pattern memory

256 x 64 bits (512 wales × 16,384 address).

Control system

Stored program for flat knitting machine.

Control display

Monochrome CCD panel. Existing possible via display panel operation. Available in English, French, Italian, German, Spanish, Portuguese, Turkish, Chinese, Korean and Japanese.

Power

Single phase AC200V ±10%.

1.3kVA 1kVA

OPTION: (1) Elastic yarn feeder (Left side). (2) Air Splicer. (3) i-DSCS® (4) Yarn feed roller (SWG041N only). (5) CE Mark.

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

Average Weight

SWG041N 360kg (792 lbs)

SWG061N 420kg (924 lbs)

SWG091N 460kg (1,012 lbs)

Actual weight is dependent upon gauge and optional equipment.

<table>
<thead>
<tr>
<th>Model</th>
<th>SWG041N</th>
<th>SWG061N</th>
<th>SWG091N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge</td>
<td>7, 10, 15</td>
<td>7, 10, 15</td>
<td>7, 10, 15</td>
</tr>
<tr>
<td>Knitting width</td>
<td>Variable stroke. Max 16&quot; (40cm)</td>
<td>Variable stroke. Max 24&quot; (60cm)</td>
<td>Variable stroke. Max 36&quot; (90cm)</td>
</tr>
<tr>
<td>Stitch density</td>
<td>60 loops. Electronically controlled.</td>
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</tr>
<tr>
<td>Second stitch</td>
<td>Right stitches for kayak in intarsia and heel knitting.</td>
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<tr>
<td>Racking</td>
<td>Single system with transfer cams on both sides.</td>
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</tr>
<tr>
<td>Transfer</td>
<td>Back to front during right traverse, front to back during left traverse. Selectable normal transfer or holding.</td>
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<td>Back to front during right traverse, front to back during left traverse. Selectable normal transfer or holding.</td>
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<tr>
<td>Yarn cutter</td>
<td>6 yarn holding hooks and 1 cutter on right side of both front and back needle beds.</td>
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<td>Elastic yarn feeder</td>
<td>Stepping motor controls. Fixed amount up to 500% of full knitting width (adjustable for each knit part). Right side standard.</td>
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<tr>
<td>Air Splicer</td>
<td>Instant color changes using pressurized air. 8 colors per unit. Optional.</td>
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<td>i-DSCS®</td>
<td>DSCS® with intelligence. Active controls yarn feed in both feed and retrieval directions. Optional.</td>
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<td>Yarn feed roller</td>
<td>Prevents yarn breaks when knitting with delicate yarns.</td>
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<td>Auto yarn carrier</td>
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<td>Top tensions</td>
<td>6 tension devices.</td>
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</tr>
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<td>Yarn break sensor</td>
<td>32 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.</td>
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<td>Stop motion</td>
<td>Yarn break, large knot, wraparound check, shock detection, piece count, over-torque, program error, delivery error, etc.</td>
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<td>Cleaner</td>
<td>Special blower operated cleaner.</td>
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In order to ensure safe operation of the equipment, please review all operation manuals carefully before use.

SAFETY NOTICE

Fully Fashioned High-Speed Knitting Machine