Direct-drive, high-speed, lockstitch sewing system
with automatic thread trimmer

DDL-9000C Series

JUKI Smart Solutions
**Creation of "sewing"**

Commitment to "seam quality" is poised to enter a new era with JUKI’s next-generation sewing system. The change is driven by digitalization. Until recently, sewing machines have been adjusted by human operators based on personal hunches and experience. Now, with JUKI’s digital sewing system DDL-9000C, sewing machine adjustments are fully digitalized. The settings can be reproduced with total accuracy to perfectly suit the materials being sewn.

**DDL-9000C Series comes in three different types.** These three types of the DDL-9000C Series are environmentally friendly sewing machines that prevent the material from being stained with oil.

**FD** Fully-dry head type
**DDL-9000C-D** (Max. sewing speed: 4,000sti/min)
The machine prevents the material being sewn from being stained with oil. The DDL-9000C is the comfort sewing machine that prevents oil stains on the material during sewing. It totally supports the improvement of finished seam quality.

**FM, SM** Semi-dry head type
**DDL-9000C-M** (Max. sewing speed: 5,000sti/min)
Sewing work free from oil stains by means of our leading-edge dry-head technology. With the advanced dry technology of enabling operation without being lubricated, a frame which does not need lubrication has been developed. It is provided with not only a high-speed sewing capability, but also a safety feature for preventing oil stains.

**FS, SS** Minute-quantity lubrication type
**DDL-9000C-S** (Max. sewing speed: 5,000sti/min)
The sewing speed of 5000sti/min, which is the highest speed of any direct-drive lockstitch machines, contributes to increased productivity. The DDL-9000C-S is the standard model developed with emphasis on durability. It produces seams with consistency when run at speeds which falls in the range of the highest sewing speeds.

"sti/min" stands for “Stitches per Minute.”

---

**Management of sewing performance and sewing machine by the utilization of IoT (Internet of Things)**

Management, browsing and editing of data can be carried out on the application software.

Data on sewing machine adjustments made according to the product to be sewn can be transferred to a commercially-available Android tablet in contactless mode. This enables quick check for uniform settings as well as confirmation of conditions of sewing machines in a sewing line, thereby facilitating setup changes. The operation panel is also provided as standard with a USB port.

Data management and software update can be carried out with ease using a USB thumb drive.

Data items of sewing can be numerically managed to ensure "stable quality" and "reduction in time required for setup changes". Quantified sewing data can be externally taken from the sewing machine using an Android tablet or USB thumb drive.

Various data can be obtained by using the Smart APP.
The data obtained by the APP are reflected in the graph.

---

**Digitalized control panel**

Two different modes: i.e., the operator mode which prioritize ease of operation and the servomorphic mode, are prepared to respectively display indications according to the user.

In addition, installation of NFC enables data transfer to an Android tablet. Data transferred from the sewing machine to an Android tablet can be edited on the tablet.

**Full Digital Type**
Adoption of a 4.3-inch large color liquid crystal touch panel ensures easy operation. The touch panel is provided with JUKI’s unique intelligent sewing system features.

**Digital Type**
Adoption of a black-and-white liquid crystal switch panel ensures easy operation. Since, unlike the CP panel, the black-and-white liquid crystal panel provides verbal explanation of its operation, it is easier for the operator to understand how to operate it.

**Main functions of the full-digital model and digital model**

- Digit feed
  - (Horizontal direction)
- Active presser foot
- Active tension
- Support to an Android tablet
- Network
- Short-thread remaining (type thread trimming)
- Color touch panel

- (Full digital model)
- (Digital model)

---

The sewing machine can be paired with equipment which supports NFC (Near Field Communication) only by holding the equipment over the sewing machine.
Vertically- and horizontally-driven digital feed mechanism

Thanks to the world’s first vertically-driven digital feed mechanism, the feed dog height can be adjusted with ease according to the material fabric of product to be sewn, thereby improving seam quality. Thanks to this digital feed mechanism, thread trimming is carried out with the feed dog lowered in the case the shorter-thread remaining thread trimming function is enabled. As a result, the clearance provided between the throat plate and the material is eliminated, thereby stabilizing the length of thread remaining after thread trimming.

The feed dog does not protrude the top surface of throat plate when the sewing machine stops with its needle bar up, thereby facilitating placement/removal of the material on/from the top surface of throat plate and preventing the material from being damaged by the feed dog.

Various kinds of feed locus can be selected.

Digital functions which accentuate excellent "seam" quality

I. Adoption of the needle-thread active tension

Needle tension is digitally controlled

Needle thread tension which matches sewing conditions given can be set on the operation panel and stored in memory. The needle thread tension adjustment needs experience. However, for this sewing machine, thread tension data stored in memory is reproducible, thereby reducing the setup time when the product to be sewn is changed.

Example: Needle-thread active tension demonstrates its effectiveness in the topstitching process. For wetting shoulders of a difficult-to-sew material, uniform stitches can be produced continuously by appropriately changing the sewing conditions even if the right and left material fabric differ in texture grain.

II. Active presser foot pressure mechanism

The presser foot pressure is digitally controlled

Digital control system controls the presser foot pressure. Under the automatic mode, the multi-layered section detection function detects changes in material thickness to increase/decrease the presser foot pressure accordingly.

Under the manual mode, the presser foot pressure control function is assigned to the hand switch to enable operation with the hand switch.

III. Needle thread clamp

The device clamps the needle thread and draws it under the material at the beginning of sewing. The needle thread clamp device works to reduce the size of thread tangling in on the wrong side of the material. This expands the area around the needle entry, thereby allowing the use of various gauge components.

Remaining thread at the end of sewing reduced to 3 mm

Double-edge driven rotary knife system is adopted. The double edges of the knife intersect with each other directly under the needle entry point to trim the thread. Achievement of thread length remaining on the material after thread trimming as short as 3 mm. The grooved cam system is adopted to enable forcible release of the thread trimmer even if the thread trimmer locks.

The picker device is also adopted. The picker device secures a sufficient length of needle thread, as well as it stabilizes the length of thread remaining on the material.

Functions necessary for sewing machine operation can be used with the hand switch

Functions of two hand switches can be set through the operation panel. Since the reverse-feed stitching lever is provided as standard, added functions can be customized. 20 different functions (needle up/down correction sewing, reverse-feed correction sewing, 1-time reverse-feed stitching cancellation function, etc.) are available. Highly convenient operation is enabled by setting the functions which match the sewing process in combination.

The hand switches have been factory-assigned respectively with Touch-back switch and Custom switch (to be set by the customer) at the time of shipment. The customer may assign other functions to these two hand switches.

Hand switch (in the case it is assigned with the multi-layered section changeover function)

- Detect Multi-layered section of material and automatically carry out the changeover of multi-layered section <Automatic mode>
- Manually carry out the changeover of multi-layered section at an arbitrary timing with the hand switch <Manual mode>
- Set thread tension, presser foot pressure, pitch, feed locus and feed dog height separately for the normal section and multi-layered section of material
- Digitally control presser foot pressure
- Digitally carry out the changeover of multi-layered section at an arbitrary timing with the hand switch
- Set thread tension, presser foot pressure, pitch, feed locus and feed dog height separately for the normal section and multi-layered section of material

Auto-lifter AK-154

Newly-developed auto-lifter device comes with a stepping motor. This not only increases the amount of lift of the presser foot from 8.5 mm to 13.5 mm at the maximum but also reduces the operating noise.

After the thread cutting of the sewing machine, thanks to the feature of the world’s first top and bottom drive electronic feed mechanism to prevent the feed dog from protruding the top of throat plate, the material can be placed under presser foot and removed from there with ease and is not easily damaged.

For the full-digital type model, the auto-lifter function is provided as standard.
The DDL-9000C is an eco-friendly product which complies with JUKI ECO PRODUCTS standards for protecting the environment.

LED light

The LED light illuminates the needle entry area in the just-under direction from the right and left sides of the needle bar. In comparison with the single-direction illumination, this LED light helps the operator carry out sewing more easily. Illuminance of the LED light is adjustable in five levels. It can also be used as an auxiliary lamp for working.

OPTIONS

- **Non-lubricated hook**
  - Hook: 27003557
  - Bobbin case: 27003755
  - Bobbin: 27003805
  - Non-rotary bobbin
- **Auto-lifter AK-154 (foot-pedal type)**
  - 40174617

- **Auto-lifter**
  - 40065571

- **Electric-fan hook cooling device**
  - 40065571

- **Bobbin**
  - Bobbin thread winder
  - Bobbin case

- **Needle**
  - Needle thread tension

- **Feed dog**
  - Feed dog height

- **Presser foot**
  - Presser foot pressure

- **Lift**
  - Lift of the presser foot

- **Thread trimming method**

- **Max. stitch length**

- **Max. sewing speed**

- **Lubrication**
  - Lubricating oil

- **Power consumption**

- **Others**

**SPECSIFICATIONS**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DDL-9000C-FDS</th>
<th>DDL-9000C-FMS</th>
<th>DDL-9000C-FSH</th>
<th>DDL-9000C-SMS</th>
<th>DDL-9000C-SSH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Full Digital Type</td>
<td>Digital Type</td>
<td>Full Digital Type</td>
<td>Digital Type</td>
<td>Full Digital Type</td>
</tr>
<tr>
<td>Application</td>
<td>Medium-weight</td>
<td>Heavy-weight</td>
<td>Medium-weight</td>
<td>Heavy-weight</td>
<td>Medium-weight</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Fully-dry head</td>
<td>Semi-dry</td>
<td>Minute-quantity lubrication</td>
<td>Semi-dry</td>
<td>Minute-quantity lubrication</td>
</tr>
<tr>
<td>Max. sewing speed</td>
<td>4,000st/min¹</td>
<td>4,000st/min¹</td>
<td>4,000st/min¹</td>
<td>4,000st/min¹</td>
<td>4,000st/min¹</td>
</tr>
<tr>
<td>Hand switch</td>
<td>Provided as standard</td>
<td>with the touch-back switch function and the one-touch changeover switch function, 5mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. stitch length</td>
<td>5mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Needle bar stroke</td>
<td>30.7mm</td>
<td>30.7mm</td>
<td>30.7mm</td>
<td>30.7mm</td>
<td>30.7mm</td>
</tr>
<tr>
<td>Feed dog height</td>
<td>0.8mm</td>
<td>0.8mm</td>
<td>1.2mm</td>
<td>1.2mm</td>
<td>1.2mm</td>
</tr>
<tr>
<td>Needle thread tension</td>
<td>Active tension</td>
<td>Spring type</td>
<td>Active tension</td>
<td>Spring type</td>
<td>Active tension</td>
</tr>
<tr>
<td>Presser foot pressure</td>
<td>Electronic control</td>
<td>Spindle type</td>
<td>Electronic control</td>
<td>Spindle type</td>
<td>Electronic control</td>
</tr>
<tr>
<td>Lift of the presser foot</td>
<td>Spindle type</td>
<td>Spindle type</td>
<td>Spindle type</td>
<td>Spindle type</td>
<td>Spindle type</td>
</tr>
<tr>
<td>Noodles¹²</td>
<td>DB₁=1-NB₅ (111) 90₅~18-NM₆₅ <del>110) 42₁</del>23-NM₂₅ ~160</td>
<td>DB₁=1-NB₅ (111) 90₅~18-NM₆₅ <del>110) 42₁</del>23-NM₂₅ ~160</td>
<td>DB₁=1-NB₅ (111) 90₅~18-NM₆₅ <del>110) 42₁</del>23-NM₂₅ ~160</td>
<td>DB₁=1-NB₅ (111) 90₅~18-NM₆₅ <del>110) 42₁</del>23-NM₂₅ ~160</td>
<td></td>
</tr>
<tr>
<td>Bobbin/thread winder</td>
<td>Built in the top of machine head</td>
<td>Provided with the bobbin thread retaining plate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lubricating oil</td>
<td>JUKI New Defrix Oil No. 1 or JUKI CORPORATION GENUINE OIL 7 (equivalent to ISO VG7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size of bed</td>
<td>517x178x300 (distance from needle to machine arm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine head drive</td>
<td>Compact AC servomotor (400W) that is directly connected to the main shaft (direct-drive system)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power consumption</td>
<td>520VA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net weight</td>
<td>Machine head: 40.5kg (with AK-154)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**WHEN YOU PLACE ORDERS**

Please note when placing orders, that the model name should be written as follows.

**Machine head**

- DDL-9000C
- DDL-9000C-FMS
- DDL-9000C-FSH
- DDL-9000C-SMS
- DDL-9000C-SSH

**Control box**

- SC95

* This order can be selected only digital specifications.

**PSC box**

- Single-phase 100/120V
- Single-phase 200~240V

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td></td>
</tr>
<tr>
<td>U</td>
<td></td>
</tr>
</tbody>
</table>

*This is only available to machine repair.

To order, please contact your nearest JUKI distributor.