AMS-210EN Series
AMS-221EN Series

Lineup of our cutting-edge sewing machines

AMS-210EN Series
AMS-221EN Series

Computer-controlled Cycle Machine with Input Function
The AMS Series is newly reborn. New technologies have helped the AMS Series increase "productivity," achieve "energy conservation" in consideration of the global environment, and further improve "quality."

**AMS-210EN Series**

The AMS-210EN Series comes in three different models which differ in sewing area.

- **1306** (X: 130mm × Y: 60mm)
- **1510** (X: 150mm × Y: 100mm)
- **2210** (X: 220mm × Y: 100mm)

**AMS-221EN Series**

The AMS-221EN Series comes in two different models which differ in sewing area.

- **2516** (X: 250mm × Y: 160mm)
- **3020** (X: 300mm × Y: 200mm)

**Productivity**

The sewing machine achieves the highest sewing speed, 2,800 sti/min*, in the industrial sewing machine industry. As a result, cycle time is dramatically reduced.

**Quality**

The feed accuracy is substantially improved due to the adoption of the encoder control system.

**Energy-saving**

The new AMS Series models substantially decrease power consumption, even when compared with the conventional models. They have been designed to achieve eco-friendliness.

*"sti/min" stands for "Stitches per Minute."
The sewing speed has been increased to 2,800sti/min, which is the highest sewing speed in the industrial sewing machine manufacturing industry. Various functions contribute to increased productivity!

**Cycle time is shortened.**

- The sewing machine has achieved the industry’s highest sewing speed of 2,800sti/min. The maximum sewing speed is reached by the 2nd stitch from the beginning of sewing. Since the sewing machine maintains its highest sewing speed immediately before the end of sewing and instantaneously decreases its speed, cycle time can be substantially decreased.

- JUKI’s unique stepping-motor controlled thread trimming mechanism is adopted to enable speedy and consistent thread trimming performance.

- The machine demonstrates enhanced responsiveness due to the adoption of a main-shaft direct-drive system.

**The maximum sewing speed per stitching-pitch (stitch length) is increased.**

Sewing at the maximum sewing speed of 2,800sti/min is possible up to stitching pitch of 4mm for the AMS-210EN or 3.5mm for the AMS-221EN (the highest sewing speed and stitching pitch in the industrial sewing machine industry). Even for the larger pitches, the sewing speed is increased by 90% for the AMS-210EN and by 60% for the AMS-221EN at the maximum when compared with the conventional models, thereby reducing the cycle time.

- The sewing speed is automatically controlled according to the stitching pitch.

**Power consumption is substantially decreased.**

The AMS Series are an economically-efficient model which has been designed to reduce power consumption. The AMS-210EN is an economically-efficient model which has been designed to reduce power consumption. The sewing machine has adopted a direct-drive system by means of a compact AC servomotor that is excellent in energy transmission to drive the main shaft, and has adopted an encoder-control system which drives the stepping motor with a minimum of power in accordance with the material thickness and stitch length to control the X-Y drive mechanism. Power consumption of the new AMS Series is reduced by 30% when compared with JUKI’s conventional AMS-210IE or by 45% when compared with the conventional AMS-221E.

**Productivity**

**Cycle time is shortened.**

A remarkable degree of energy conservation is achieved by the adoption of the encoder-control system. The sewing machine has been designed with additional consideration for the environment.

**Energy-saving**
In order to produce beautiful seams, new functions have been added.

**Quality**

**Improvement of seam quality**

The position of the feed can be checked during sewing by means of the encoder-controlled X-Y drive. This remarkably improves accuracy of the feed. As a result, deformation of a sewing pattern which is likely to occur when sewing at a high speed or sewing a heavy-weight material is significantly reduced.

**Semi-dry head**

The frame (needle bar unit and thread take-up unit) is lubricated with grease, and the hook is fed with a minute quantity of oil from the oil tank. JUKI's advanced dry technology, which is utilized in a number of our sewing machine models, protects your products from being stained with oil.

**Programmable intermediate presser**

To support the sewing of multi-layered parts of materials, the lower dead point height of the intermediate presser can be changed steplessly during sewing (standard: 0~3.5mm; maximum: 0~7.0mm). The intermediate presser will now be able to clamp the material without fail, thereby preventing troubles in sewing, such as stitch skipping and thread breakage. Furthermore, fees on the sewing product are prevented by maintaining the intermediate height as desired according to the material thickness. (The intermediate presser stroke is adjustable between 0 and 10mm.)

**Feeding frame**

- **Two different types of feeding frames**
  - The feeding frame comes in two different types: the monolithic feeding frame and the separately-driven feeding frame. This separately-driven feeding frame enables easy placement of the sewing material on the machine since its right and left frame parts can be operated separately. Both the amount of lift and the ascending/descending speed of the feeding frame can be adjusted differently for the right and left parts of the frame.
  - The feeding frame can be lowered in two steps. It is very convenient for finely positioning the material on the sewing machine. The stopping height of the feeding frame can be set as desired with ease.

**Active tension**

Market-proven active tension has been introduced to the needle thread tension controller. With the active tension, pinpoint changes in the needle thread tension during sewing are enabled. The needle thread tension, therefore, can be set in conjunction with the material thickness and can be corrected according to the direction of sewing on a stitch-by-stitch basis through the operation panel. Since the needle thread tension is reproducible, supporting a broader range of sewing conditions, the time required for setup changing upon process changeover can be reduced.

The machine supports a broader range of materials and various sewing specifications.

**Slide-type thread take-up lever**

The machine with a slide-type thread take-up lever is designed for improved stitching with heavy threads tension. JUKI's unique active tension mechanism which has been re-designed specifically for heavy-weight materials, as well as the slide-type thread take-up lever which is suited for sewing heavy-weight materials, increase the maximum tension by 50% more compared to that of the standard models of the JUKI AMS Series machines. The new model improves seam quality (thread tension) for sewing seat belts and general heavy-weight materials such as container belts and bags.
The large-sized liquid crystal touch panel, which has been developed to ensure ease of operation, dramatically increases efficiency in edit work.

The IP-420 touch panel offers market-proven ease of operation. It is provided with a wide screen and programmable functions. Data can be input/edited while visually checking the needle movement. The color LCD unit displays sewing data such as stitch shape, needle thread tension, enlargement/reduction ratio, sewing speed and the number of stitches at a glance. The IP-420 is provided as standard with 14 different display languages.

The key-lock customization function
The key-lock state can be set as desired. It is therefore possible to hide items which should not be handled by the operator.

Simplified operation mode
Simplification of set items and screen transition of the IP-420 increases ease of use and helps reduce operator fatigue.

The memory storage capability of the main body of the sewing machine has been dramatically enhanced. Now the USB-ready main body of the sewing machine uses many different kinds of media.

Sewing data created with the IP-420 can be stored in the memory of the main body of the sewing machine. The memory storage capacity is 550,000 stitches and 999 patterns (max. 55,000 stitches per pattern) at the maximum. In addition to the CompactFlash 33 card, the main body of the sewing machine is provided as standard with a USB connector. Now, data can be input/output to/from various kinds of media (FD (floppy disks), SM (SmartMedia), CF (CompactFlash), SD (Secure Digital Card) etc.) by means of a USB thumb device and a card reader. The maximum number of stitches that can be stored in the memory for each medium is approximately 50,000,000.

The transformer is required when the sewing machine is used in a high-voltage area (380V/400V/415V). The transformer is required when the sewing machine is used in a high-voltage area.

So as to prevent any accidents that may be caused when the feeding frame does not match a program, a program which matches the feeding frame can be invoked by reading the bar-code.

A side wiping type is available depending on the sewing products or sewing conditions.

(To use the side-sweeping wiper, part number 40035692 should be ordered.)

It blows air on the needle to prevent thread breakage due to heat.

The pneumatic set is required when the S type (motor-driven feeding frame) uses pneumatic inverted clamp device and needle cooler.

The feeding frame and the feed plate can be quickly changed without any tools.

For the S type (motor-driven feeding frame), the AMS-210EN pneumatic set is required.

The feeding frame is required when the sewing machine is used in a high-voltage area (380V/400V/415V).

For the S type (motor-driven feeding frame), the AMS-210EN pneumatic set is required.

The pneumatic inverted clamp device is required when the S type (motor-driven feeding frame) uses pneumatic inverted clamp device and needle cooler.

The feeding frame is required when the sewing machine is used in a high-voltage area (380V/400V/415V).

PM-1 Ver.3

On the PM-1 programming software, a sewing data shape can be created more precisely as compared with the IP-420.

With the PM-1 programming software, frequent trial stitching can be directly done in repetition when editing complicated and minute data, thereby allowing the operator to create a sewing pattern design as desired free from stress during editing work.

The model is best-suited to circular sewing, for attaching small patches such as labels and emblems.

For the S type (motor-driven feeding frame), the AMS-210EN pneumatic set is required.

For the S type (motor-driven feeding frame), the AMS-210EN pneumatic set is required.

The feeding frame is required when the sewing machine is used in a high-voltage area (380V/400V/415V).

The feeding frame is required when the sewing machine is used in a high-voltage area (380V/400V/415V).
The machine with a slide-type thread take-up lever AMS-210EN-HL1306/7300 is excluded.

### Sewing machine motor
- **Lubricating oil**
- **Sewing machine motor**
- **Lubrication**
- **Bobbin thread / Product counter**
- **Enlarging / Reducing facility**

### SPECIFICATIONS

#### Needle / Needle hole guide / Intermediate presser corresponding table

<table>
<thead>
<tr>
<th>Application</th>
<th>Needle</th>
<th>Needle hole guide</th>
<th>Intermediate presser</th>
<th>Number</th>
<th>Part No.</th>
<th>Needle hole diameter</th>
<th>Part No.</th>
<th>Dimensions (⅛Angstroms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knot and knitting (option)</td>
<td>a20→a11</td>
<td>ES42E210050C</td>
<td>ø1.6</td>
<td>B1610121D00 (option)</td>
<td>ø1.6×2.6×8.7×5.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light- to medium-weight (Ⅴtype)</td>
<td>a11→a14</td>
<td>ES42E210050A</td>
<td>ø1.6</td>
<td>40023622 (standard)</td>
<td>ø2.2×3.8×5.3×3.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium- to heavy-weight (Ⅴtype)</td>
<td>a14→a16</td>
<td>ES42E210500B</td>
<td>ø2.0</td>
<td>B1611212D00A (option)</td>
<td>ø2.2×3.8×8.7×4.1</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Heavy-weight (option)</td>
<td>a8→a25</td>
<td>ES42E210050D</td>
<td>ø2.4</td>
<td>B1611212D00A (option)</td>
<td>ø2.7×4.2×5.3×3.7</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Heavy-weight (II-type thread take-up lever: standard)</td>
<td>a10→a15</td>
<td>ES42E210500F</td>
<td>ø3.0</td>
<td>14436901</td>
<td>ø3.5×7.3×5.3×3.7</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Extra-heavy-weight (option)</td>
<td>a10→a15</td>
<td>ES42E210500G</td>
<td>ø3.0 (with counterbore)</td>
<td>B1610121D00A</td>
<td>ø3.5×5.3×5.3×3.7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the prevention of shift slipping on heavy-weight materials (option)

8Ⅴtype: Fitting thread numbers #80

ⅩThe needle equipped as standard (DP×5 #14)

### AMS-210EN Series

#### Sewing area
- **AMS-210EN-S1306**
- **AMS-210EN-HL1306**

#### Feeding frame type
- **Monolithic feeding frame**
- **Separately-driven feeding frame**

#### Application
- **Motor-driven feeding frame** (lifting amount: 25mm)
- **Pneumatic feeding frame** (lifting amount: 30mm)

#### Needle
- **Needle bar stroke**
- **Lifting amount**
- **Stroke / Stroke of the intermediate presser**
- **Needle tension**
- **Active tension (electronic thread tension control mechanism)**

#### Hook
- **Double-cylinder shuttle hook**

#### Storage of pattern data in the memory
- **Main-body memory: Max. 50,000 stitches, 999 patterns (max. 50,000 stitches / pattern)**
- **External memory: Max. 50,000,000 stitches, 999 patterns (max. 50,000 stitches / pattern)**

#### Enlarging / Reducing facility

#### Bobbin thread / Product counter
- **Up / Down system (2–5.999)**

#### Lubrication
- **Semi-dry / hook section: minute-quantity lubrication (tank system)**

#### Seizing machine motor
- **AC servomotor 550W (direct-drive system)**

#### Power requirement / Power consumption
- **Single-phase, 3-phase 200V–240V/450VA**

### AMS-221EN Series

#### Sewing area
- **AMS-221EN-S310**
- **AMS-221EN-HL310**

#### Feeding frame type
- **Pneumatic feeding frame** (lifting amount: 30mm)

#### Application
- **Light- to medium-weight**
- **Medium- to heavy-weight**

#### Needle
- **Needle bar stroke**
- **Lifting amount**
- **Stroke / Stroke of the intermediate presser**
- **Needle tension**
- **Active tension (electronic thread tension control mechanism)**

#### Storage of pattern data in the memory
- **Main-body memory: Max. 50,000 stitches, 999 patterns (max. 50,000 stitches / pattern)**
- **External memory: Max. 50,000,000 stitches, 999 patterns (max. 50,000 stitches / pattern)**

#### Enlarging / Reducing facility

#### Bobbin thread / Product counter
- **Up / Down system (2–5.999)**

#### Lubrication
- **Semi-dry / hook section: minute-quantity lubrication (tank system)**

#### Seizing machine motor
- **AC servomotor 550W (direct-drive system)**

#### Power requirement / Power consumption
- **Single-phase, 3-phase 200V–240V/450VA**
Please note when placing orders, that the model name should be written as follows:

AMS-210EN Series

<table>
<thead>
<tr>
<th>Application Code</th>
<th>Sewing area Code</th>
<th>Subclass Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>1306</td>
<td>5000</td>
</tr>
<tr>
<td>H</td>
<td>1510</td>
<td>5001</td>
</tr>
</tbody>
</table>

AMS210EN S

Feeding frame type Code | Applicable model |
------------------------|------------------|
Motor-driven feeding frame S | AMS-210EN 1306-1510 |
Pneumatic feeding frame L | AMS-210EN 1306*-1510-2210 |

PK 2-pedal unit (PK78) C
PK 3-pedal unit (PK47) D

Control box

MC587 IP420F

Power supply Code

<table>
<thead>
<tr>
<th>3-phase</th>
<th>200~240V</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-phase</td>
<td>200~240V</td>
<td>K</td>
</tr>
<tr>
<td></td>
<td>200~240V (for CE)</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>200~240V (for China)</td>
<td>U</td>
</tr>
</tbody>
</table>

AMS-221EN Series

<table>
<thead>
<tr>
<th>Application Code</th>
<th>Applicable model</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>AMS-221EN 2516</td>
</tr>
<tr>
<td>H</td>
<td>AMS-221EN 2516-3020</td>
</tr>
<tr>
<td>G</td>
<td>AMS-221EN 3020</td>
</tr>
</tbody>
</table>

AMS221EN S

<table>
<thead>
<tr>
<th>Feeding frame type Code</th>
<th>Applicable model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monolithic feeding frame S</td>
<td>AMS-221EN 2516-3020</td>
</tr>
<tr>
<td>Separately-driven feeding frame L</td>
<td>AMS-221EN 2516</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power supply Code</th>
<th>Pedal switch Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-phase 200~240V</td>
<td>D</td>
</tr>
<tr>
<td>Single-phase 200~240V (for CE)</td>
<td>N</td>
</tr>
</tbody>
</table>

PK 3-pedal unit (PK47) D
PK 2-pedal unit (with a mechanical valve pedal) F

Table stand

JTAM

Feeding frame type Code

<table>
<thead>
<tr>
<th>Motor-driven work clamp</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumatic work clamp</td>
<td>2</td>
</tr>
</tbody>
</table>

To order, please contact your nearest JUKI distributor.

JUKI CORPORATION
SEWING MACHINERY BUSINESS UNIT

* Specifications and appearance are subject to change without prior notice for improvement.
* Read the instruction manual before putting the machine into service to ensure safety.
* This catalogue prints with environment-friendly soyink on recycle paper.