**AMS-210EN Series**

- **Application**
  - Light- to medium-weight: S
  - Medium- to heavy-weight: H
  - Heavy- to extra heavy-weight: G

- **Sewing area**
  - Light- to medium-weight: K:130mm - Y:60mm
  - Medium- to heavy-weight: K:150mm - Y:100mm
  - Heavy- to extra heavy-weight: K:220mm - Y:100mm

- **Subclass**
  - Standard: 5000
  - subclass: 5001

- **Feeding frame type**
  - Motor-driven feeding frame: S
  - Pneumatic feeding frame: L

- **Pedal switch**
  - PK 2-pedal unit: PK78
  - PK 3-pedal unit (with a mechanical valve pedal): PK47

- **Feeding frame type Code**
  - S
  - L

- **Motor-driven work clamp**
  - Pneumatic work clamp

- **Power supply**
  - 3-phase: 200-240V
  - Single-phase: 200-240V

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**AMS-221EN Series**

- **Application**
  - Light- to medium-weight: S
  - Medium- to heavy-weight: M
  - Heavy- to extra heavy-weight: G

- **Sewing area**
  - Light- to medium-weight: K:150mm - Y:100mm
  - Medium- to heavy-weight: K:220mm - Y:100mm

- **Subclass**
  - Standard: S000
  - subclass: S001

- **Feeding frame type**
  - Pneumatic feeding frame: S
  - Separately-driven feeding frame: L

- **Pedal switch**
  - PK 2-pedal unit: PK78
  - PK 2-pedal unit (with a mechanical valve pedal): PK47

- **Feeding frame type Code**
  - S
  - L

---

**WHEN YOU PLACE ORDERS**

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

**AMS-210EN Series**

- **Machine head**
  - **Control box**
    - MC587
    - IP420F
  - **Table stand**
    - JTAM

**AMS-221EN Series**

- **Machine head**
  - **Control box**
  - **Table stand**

To order, please contact your nearest JUKI distributor.

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**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.**

**Paper from responsible sources FSC™ C001712**
The AMS-221EN Series comes in two different models which differ in sewing area.

AMS-210EN Series

AMS-221EN Series

Computer-controlled Cycle Machine with Input Function

AMS-210EN Series

AMS-221EN Series

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

AMS-210EN Series

AMS-221EN Series

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

AMS-210EN Series

AMS-221EN Series

The sewing machine is applicable to sewing products which require a wider sewing area than that of the "AMS-221EN-3020." It is best-suited to the attaching of handles to bags and the shape-tacking of boots and shoes. The sewing machine is flexibly applicable to sewing requiring a medium sewing area.

AMS-210EN Series

AMS-221EN Series

The sewing machine is applicable to sewing products which require a wider sewing area than that of the "AMS-221EN-2516." It is best-suited to the attaching of handles to bags and the shape-tacking of boots and shoes. The sewing machine is flexibly applicable to sewing requiring a medium sewing area.
The AMS-210EN and AMS-221EN are eco-friendly products which comply with JUKI ECO PRODUCTS standards for protecting the environment.

**Productivity**

*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-210E or by 45% when compared with the conventional AMS-221E.

**Comparison of cycle time**

<table>
<thead>
<tr>
<th>210 Series</th>
<th>221 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AMS-210E</strong></td>
<td><strong>AMS-221E</strong></td>
</tr>
<tr>
<td>Sewing condition: Pitch 4mm, 200 stitches</td>
<td>Sewing condition: Pitch 3.5mm, 486 stitches</td>
</tr>
<tr>
<td>AMS-210EN</td>
<td>AMS-221EN</td>
</tr>
<tr>
<td>Machine time</td>
<td>15 sec</td>
</tr>
<tr>
<td>15% decrease compared with AMS-210E</td>
<td></td>
</tr>
</tbody>
</table>

**Comparison between stitching pitch and sewing speed**

<table>
<thead>
<tr>
<th>210 Series</th>
<th>221 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AMS-210E</strong></td>
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<tr>
<td>AMS-210EN</td>
<td>AMS-221EN</td>
</tr>
<tr>
<td>Sewing speed</td>
<td>Max. sewing speed 2,800sti/min (stitching pitch 4mm or less)</td>
</tr>
<tr>
<td>2,800sti/min</td>
<td>2,800sti/min</td>
</tr>
<tr>
<td>60% increase compared with AMS-210E</td>
<td></td>
</tr>
</tbody>
</table>

**Comparison of power consumption**

- **AMS-210EN**
  - Sewing condition: Stitching pitch: 3.5mm or less, 600 stitches, average line of 1 stitch, maximum 1 stitch, 20°/min, 25°/sec, 50% efficiency
  - AMS-210EN: 2,800sti/min
  - The maximum sewing speed when the stitching pitch is 3.5mm
  - Power consumption: 30% decrease compared with AMS-210E

- **AMS-221EN**
  - Sewing condition: Stitching pitch: 3.5mm or less, 600 stitches, average line of 1 stitch, maximum 1 stitch, 20°/min, 25°/sec, 50% efficiency
  - AMS-210EN: 2,800sti/min
  - The maximum sewing speed when the stitching pitch is 3.5mm
  - Power consumption: 45% decrease compared with AMS-210E

*"sti/min" stands for "Stitches per Minute.*

**JUKI ECO PRODUCTS**

The AMS-210EN and AMS-221EN are eco-friendly products which comply with JUKI ECO PRODUCTS standards for protecting the environment.

- The sewing machine complies with the "Juki Group Green Procurement Guidelines" on the use of hazardous substances, which is stricter than other restrictions, such as those of the RoHS Directive.

For details of JUKI ECO PRODUCTS, refer to: [https://www.juki.co.jp/en/company/eco](https://www.juki.co.jp/en/company/eco)
In order to produce beautiful seams, new functions have been added.

**Improvement of seam quality**

The position of the feed can be checked during sewing by means of the encoder-controlled X-Y drive stepping motor. 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 (standards: 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, flaws 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. The 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.

- **Double-stepped stroke feeding 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 changesover can be reduced.

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

The machine can be used for free pattern stitching, parts sewing, reinforcement stitching, etc. Examples of applications include the attaching of labels, emblems and name labels, the attaching of Velcro, various shape-tacking, and special bartacking.

**AMS-210EN-HL1306/7300**

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.

**Model name**

AMS-210EN-HL1306 / 7300

**Max. sewing speed**

2,000sti/min*1 (when stitch length is 4.5mm or less)

*1: sti/min = stitches per minute

**Thread take-up**

Sliding-type thread take-up lever (slip type)

**Thread**

#2~#6 (nylon, Tetron)

**Dimensions / Weight**

In conformance with the standard model

- **Thread trimming**
  - Sliding motor drive
- **Wiper**
  - Slide wiping type
- **Hook**
  - Double-capacity shuttle hook
- **Needle thread tension**
  - Active tension for heavy-weight materials (tension increased by 50% more compared to that of the standard model)
- **Needle**
  - DPX17 #25 (max. #26)
- **Feeding frame type**
  - Pneumatic feeding frame (lifting amount: 30mm)

Example application: Reinforcing the stitching of seatbelts

The feeding frame is a special order item.

**Technical specification diagram**

![Technical specification diagram](image-url)
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/output 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.

- Key-lock customization function
- Simplified operation mode
- Key-lock state can be set as desired. It is therefore possible to hide items which should not be handled by the operators.

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 500,000 stitches and 999 patterns (max. 50,000 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 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.

- Simplification of set items and screen transition of the IP-420 increases ease of use and helps reduce operator fatigue.
- The large-sized liquid crystal touch panel, which dramatically increases efficiency in edit work.
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- Simplified operation mode
- Key-lock state can be set as desired. It is therefore possible to hide items which should not be handled by the operators.

On the PM-1 programming software, a sewing data shape can be checked 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 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.

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AMS-210EN Series

<table>
<thead>
<tr>
<th>Model name</th>
<th>AMS-210EN-SL1510</th>
<th>AMS-210EN-SL1506</th>
<th>AMS-210EN-SL1306</th>
<th>AMS-210EN-SL1106</th>
</tr>
</thead>
</table>

### Sewing area
- X: 130mm × Y: 60mm

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

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

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

### Needle
- DPX5(#14)
- DPX1(#18)
- DPX5(#14)
- DPX1(#18)

### Thread
- #80 – #30
- #50 – #2
- #80 – #30
- #50 – #2

### Compressed air / Air consumption
- 0.35 ~ 0.46 max. 0.55MPa, 1.8dm³/min (ANR)

### Dimensions / Weight
- 1,200mm(W)×770mm(D)×1,200mm(H) (thread stand is not included), Machine head: 77kg, Control box: 16.5kg

### AMS-221EN Series

<table>
<thead>
<tr>
<th>Model name</th>
<th>AMS-221EN-SL2516</th>
<th>AMS-221EN-SL2510</th>
<th>AMS-221EN-SL2310</th>
</tr>
</thead>
</table>

### Sewing area
- X: 130mm × Y: 100mm

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

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

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

### Needle
- DPX5(#14)
- DPX1(#18)
- DPX5(#14)
- DPX1(#18)

### Thread
- #80 – #30
- #50 – #2

### Compressed air / Air consumption
- 0.35 ~ 0.46 max. 0.55MPa, 1.8dm³/min (ANR)

### Dimensions / Weight
- 1,200mm(W)×770mm(D)×1,200mm(H) (thread stand is not included), Machine head: 77kg, Control box: 16.5kg

### Specifications common to all models

- The machine with a slide-type thread take-up lever-AMS-210EN-HS1510/100K is excluded.

#### Max. sewing speed
- 2,800stitches/min

#### Stitch length
- 0.1 ~ 12.7mm (0.05mm step)

#### Needle bar stroke
- 41.2mm

#### Lift / Stroke of the intermediate presser
- Lifting amount: 20mm / Stroke: Standard 4mm (0 ~ 10mm)

#### Variable lower position of the intermediate presser
- Standard 0 ~ 3.5mm (max. 0 ~ 7.0mm)

#### Needle thread tension
- Active tension (electronic thread tension control mechanism)

#### Hook
- Double-capacity 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. 1,500,000 stitches, 999 patterns (max. 50,000 stitches / pattern)

#### Enlarging / Reducing facility
- 1 ~ 400% (1% step) / Pattern enlargement / reduction can be done by increasing / decreasing either stitch length or the number of stitches

#### Bobbin thread / Product counter
- Up / Down system (0 ~ 5,999)

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

#### Lubricating oil
- JUKI New Defrix Oil No.2 (equivalent to ISO VG32)

#### Sewing machine motor
- 0.45kW / 1.4HP (direct-drive system)

#### Power requirement / Power consumption
- AC Servomotor 550W / 0.45kW (direct-drive system)