

AMS Series

New technologies have helped the AMS Series increase “**productivity**,” achieve “**energy conservation**” in consideration of the global environment, and further improve “**quality**.”



Productivity

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

Energy-saving

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

Quality

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

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

Small sewing area



Medium sewing area



Computer-controlled Cycle Machine with Input Function

AMS-210EN Series

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

1306
(X: 130mm × Y: 60mm)

AMS-210EN-**S** **S1306**
Motor-driven feeding frame Monolithic feeding frame

AMS-210EN-**L** **L1306**
Pneumatic feeding frame Separately-driven feeding frame

The sewing machine flexibly supports the sewing of small articles such as labels and emblems. The sewing machine's small sewing area promises ease of use when handling small articles, thereby enabling smooth sewing operation.

1510
(X: 150mm × Y: 100mm)

AMS-210EN-**S** **S1510**
Motor-driven feeding frame Monolithic feeding frame

AMS-210EN-**L** **L1510**
Pneumatic feeding frame Monolithic feeding frame

The 1510 model is well received in the market due to its moderate-sized sewing area. Responding to market demand, the 1510 area model with a motor-driven feeding frame has been newly developed. This model can be used in a plant which is not provided with pneumatic equipment.



2210
(X: 220mm × Y: 100mm)

AMS-210EN-**L** **L2210**
Pneumatic feeding frame Monolithic feeding frame

This model has a sewing area that is best-suited to the sewing of large parts, including the shape-tacking of jean pockets. With this model, you may recognize the higher productivity of the cycle machine.

Computer-controlled Cycle Machine with Input Function

AMS-221EN Series

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

2516
(X: 250mm × Y: 160mm)

AMS-221EN-**S** **S2516**
Monolithic feeding frame Pneumatic feeding frame

AMS-221EN-**L** **L2516**
Separately-driven feeding frame Pneumatic feeding frame

The sewing machine is best-suited to the sewing of large labels and emblems, the sewing of two or more pieces of small labels and emblems at one time, and the shape-tacking of bags and shoes. The sewing machine is applicable to a broad range of materials and processes, while leading the industrial sewing machine industry in terms of improvement in quality and the promotion of production that does not require sewing-machine operators to have special skills.

3020
(X: 300mm × Y: 200mm)

AMS-221EN-**HS** **HS3020**
Monolithic feeding frame Pneumatic feeding frame

The sewing machine is applicable to sewing products which require a wider sewing area than that of the "AMS-221EN-2516SZ". 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-221EN-HL2516SZ
★The picture shows the sewing machine with a separately-driven feeding frame.

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!

Energy-saving

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.

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.

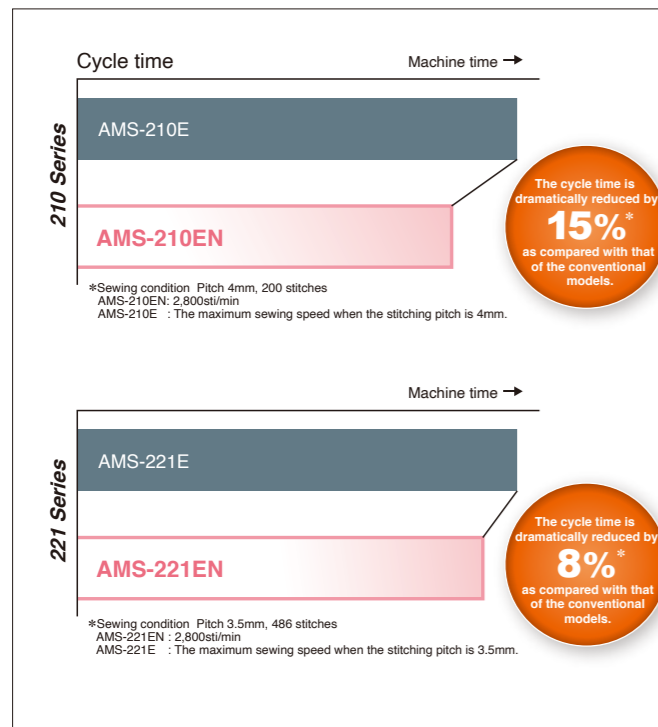
The maximum sewing speed per stitching-pitch (stitch length) is increased.

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.

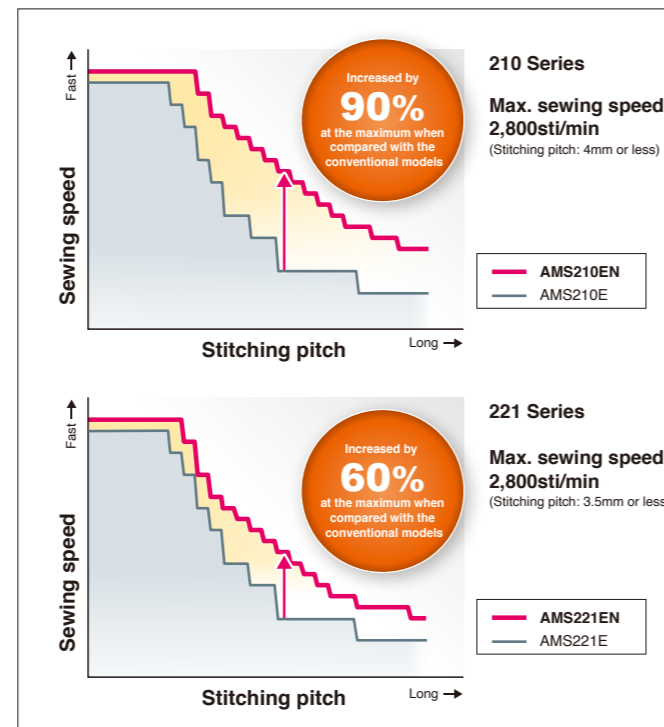
★The sewing speed is automatically controlled according to the stitching pitch.

Power consumption is substantially decreased.

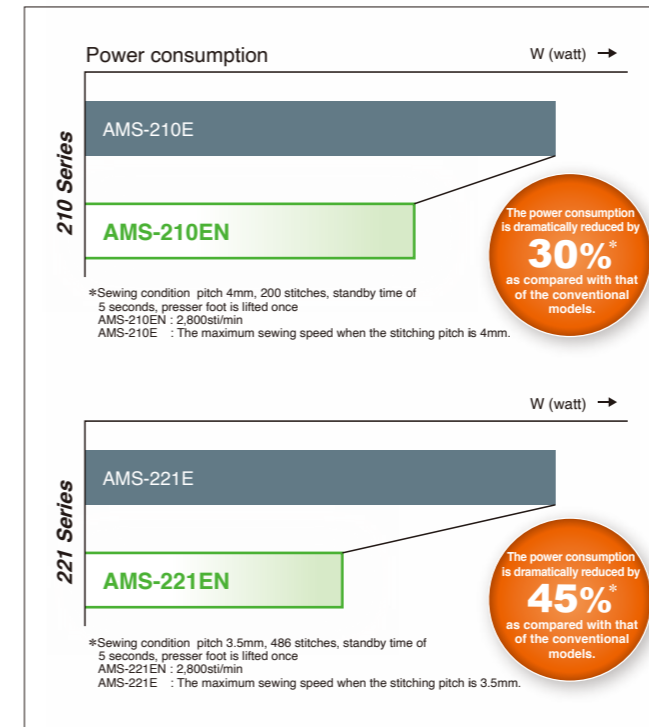
The AMS Series are an economically-efficient model which has been designed to reduce power consumption. The AMS-210EN is an economically-efficient model which has been designed to reduce power consumption. The sewing machine has adopted a direct-drive system by means of a compact AC servomotor that is 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



Comparison between stitching pitch and sewing speed



Comparison of power consumption

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

Max. sewing speed

The machine achieves the highest sewing speed of 2,800sti/min for a computer-controlled cycle machine.

Instantaneous acceleration

The maximum sewing speed is reached by the 2nd stitch from the beginning of sewing.

Instantaneous deceleration

Instantaneous deceleration: The machine remains at the maximum sewing speed until just before the end of sewing and decelerates instantaneously.

Thread trimming

A stepping-motor controlled thread trimming mechanism is employed to perform high-speed thread trimming without fail.

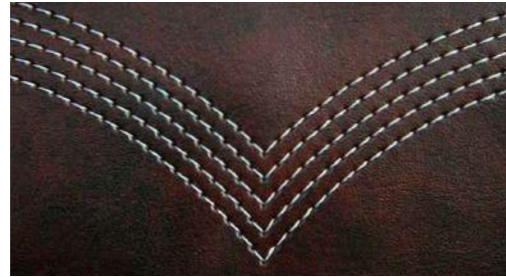


Quality

In order to produce beautiful seams, new functions have been added.

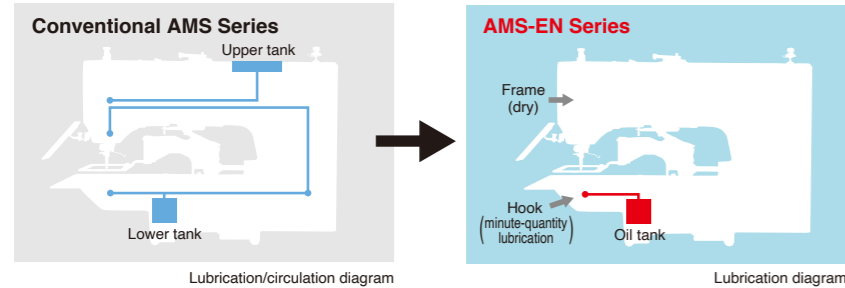
Improvement of seam quality

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

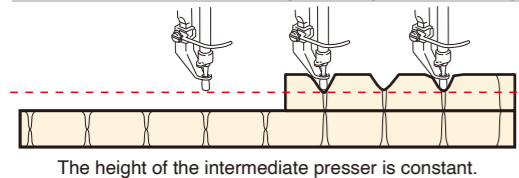
The frame (needle bar unit and thread take-up unit) is lubricated with grease, and the hook is fed with a minute quantity of oil from the oil tank. JUKI's advanced dry technology, which is utilized in a number of our sewing machine models, protects your products from being stained with oil.



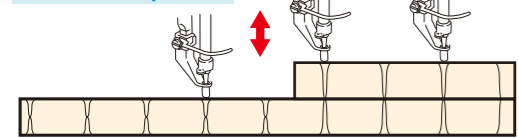
Programmable intermediate presser

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 (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, 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.)

Conventional intermediate presser (AMS-D Series)



New programmable intermediate presser



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.



★The picture shows the sewing machine with a separately-driven feeding frame.
The separately-driven feeding frame can be selected only for the AMS-210EN/L1306 and AMS-221EN/L2516.

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.



★The double-stepped stroke feeding frame is provided as standard for all models under the AMS-210EN Series and the AMS-221EN/L Series.

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.

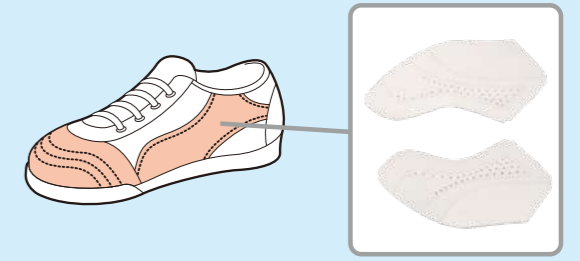
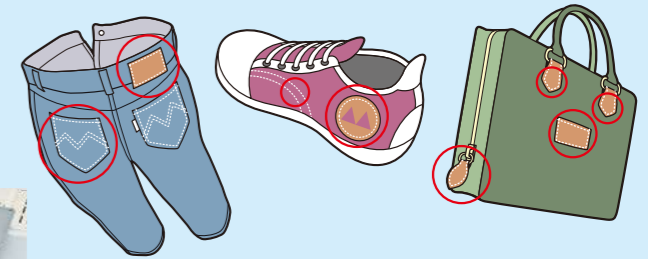


The machine supports a broader range of materials and various sewing specifications.

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-HS1306 Sewing emblems AMS-221EN-HS2516 Shape-tacking of a toe box



Shape-tacking of a quarter

Slide-type thread take-up lever

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.



Example application: Reinforcing the stitching of seatbelts
*The feeding frame is special order item.

Model name	AMS-210EN-HL1306 / 7300
Sewing area	X: 130mm x Y: 60mm
Feeding frame type	Pneumatic feeding frame (lifting amount: 30mm)
Needle	DPx17 #25 (max. #26)
Thread	#2~#8 (nylon, Tetron)
Dimensions / Weight	In conformance with the standard model

Max. sewing speed	2,000sti/min* (when stitch length is 4.5mm or less)
Thread take-up	Slide-type thread take-up lever (dry frame)
Needle thread tension	Active tension for heavy-weight materials (tension increased by 50% more compared to that of the standard model)
Hook	Double-capacity shuttle hook
Wiper	Side wiping type
Thread trimming	Stepping motor drive

*sti/min is the abbreviation for "stitches per minute"

Operation panel provided with programmable functions IP-420 (provided as standard)

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.

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 operators.

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 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 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.



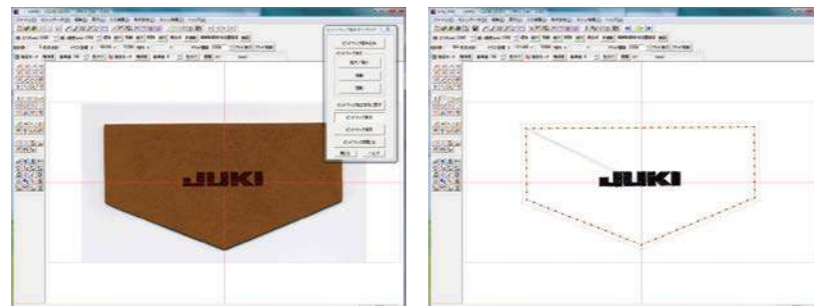
OPTION

Programming software for computer-controlled sewing machines

PM-1

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.



Device/Parts

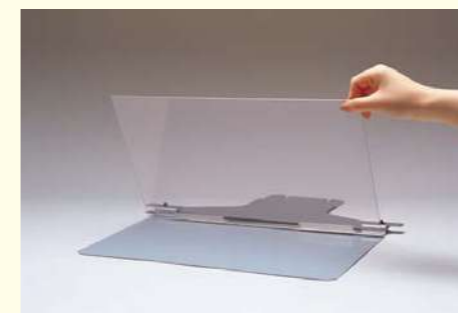
AMS-210EN Series

Description	Part No.	Feature
Pneumatic inverted clamp device	40092951*	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.
Needle cooler asm.	40092717 (40035692)	It blows air on the needle to prevent thread breakage due to heat. ★For the S type (motor-driven feeding frame), the AMS-210EN pneumatic set is required. (To use the side-sweeping wiper, part number 40035692 should be ordered.)
AMS-210EN pneumatic set	40089848	The pneumatic set is required when the S type (motor-driven feeding frame) uses pneumatic inverted clamp device and needle cooler.
Side wiper asm.	40035867	A side wiping type is also available depending on the sewing products or sewing conditions.
Relay cable asm. for the side wiper	B4150210DA0	
One-touch utility clamp Exclusive to the monolithic feeding frame	40089692*	The feeding frame and the feed plate can be quickly changed without any tools.
One-touch utility clamp Exclusive to the separately-driven feeding frame	40089695*	
Cassette holder asm.	B2594210DA0*	The next material to be sewn can be placed between the top and bottom plates of the cassette holder while the machine is still engaged in the sewing of the currently set material.
Cassette holder fixing base asm.	B2593210DA0*	
Mechanical valve unit	40042352	It is possible to make up and down movements same as manual pedal. ★Not available to S type machine head.
Bar-code reader	40089238	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.
Transformer for the single-phase high-voltage power supply	40005422	The transformer is required when the sewing machine is used in a high-voltage area (380V/400V/415V).

*Exclusive part for sewing area code 1306 (X:1306mm-Y:60mm).

AMS-221EN Series

Description	Part No.	Feature
Side wiper asm.	40035867	A side wiping type is also available depending on the sewing products or sewing conditions.
Relay cable asm. for the side wiper	40036668	
Needle cooler asm.	40092717 (40035692)	It blows air on the needle to prevent thread breakage due to heat. (To use the side-sweeping wiper, part number 40035692 should be ordered.)
Cassette holder asm. for 2516	B25822210A0	The next material to be sewn can be placed between the top and bottom plates of the cassette holder while the machine is still engaged in the sewing of the currently set material.
Cassette holder fixing base asm. for 2516	40052328	
Cassette holder asm. for 3020	40053777	
Cassette holder fixing base asm. for 3020	40053782	
One-touch utility clamp	40052330	The feeding frame and the feed plate can be quickly changed without any tools. The one-touch utility clamp has been specifically designed for Area Code 2516.
Bar-code reader	40089238	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.
Transformer for the single-phase high-voltage power supply	40005422	The transformer is required when the sewing machine is used in a high-voltage area (380V/400V/415V).



Cassette holder



One-touch utility clamp

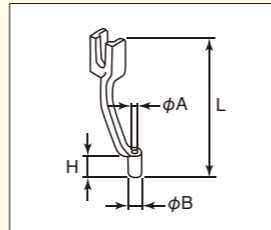


Bar-code reader

● Needle / Needle hole guide / Intermediate presser corresponding table

Application	Needle		Needle hole guide		Intermediate presser	
	Number	Part No.	Needle hole diameter	Part No.	Dimensions (φA×φB×H×L)	
Knit and knitting fabric (option)	#09~#11	B242621000C	φ1.6	B1601210D0E (option)	φ1.6×φ2.6×5.7×37.0	
Light- to medium-weight (S type)	#11~#14 *1	B242621000A	φ1.6	40023632 (standard)	φ2.2×φ3.6×5.7×38.5	
Medium- to heavy-weight (H type)	#14~#18 *2	B242621000B	φ2.0	B1601210D0FA (option)	φ2.2×φ3.6×8.7×41.5	
Heavy-weight (option)	#18~#25	B242621000D	φ2.4	B1601210D0BA (option)	φ2.7×φ4.1×5.7×38.5	
Heavy-weight (slide-type thread take-up lever: standard)		B242621000F	φ3.0	14433601		
Extra heavy-weight (option)		B242621000G	φ3.0 (with counterbore)	B1601210D0CA	φ3.5×φ5.5×5.7×38.5	
For the prevention of stitch skipping on heavy-weight materials (option)		B242621000H	φ3.0 (with eccentric)			

- S type: Fitting thread numbers #80~#20
- *1 The needle equipped as standard (DP×5 #14)
- H type: Fitting thread numbers #50~#2
- *2 The needle equipped as standard (DP×17 #18)



Intermediate presser

■ SPECIFICATIONS

◎ Specification common to all models

(The machine with a slide-type thread take-up lever AMS-210EN-HL1306/7300 is excluded.)

Max. sewing speed	2,800sti/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. 500,000 stitches, 999 patterns (max. 50,000 stitches / pattern)
	External media: Max. 50,000,000 stitches, 999 patterns (max. 50,000 stitches / pattern)
Enlarging / Reducing facility	1~400% (0.1% 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 (0~9,999)
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	AC servomotor 550W (direct-drive system)
Power requirement / Power consumption	Single-phase, 3-phase 200~240V/450VA

*Stitch length is 4mm or less for the AMS-210EN and 3.5mm or less for the AMS-221EN.
*sti/min is the abbreviation for "stitches per minute"

- ★ For CompactFlash™, please use genuine JUKI products.
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◎ AMS-210EN Series

Model name	AMS-210EN-SS1306	AMS-210EN-HS1306	AMS-210EN-SL1306	AMS-210EN-HL1306
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	DP×5(#14)	DP×17(#18)	DP×5(#14)	DP×17(#18)
Thread	#80~#30	#50~#2	#80~#30	#50~#2
Compressed air / Air consumption	—		0.35~0.4(max. 0.55)MPa, 1.8dm ³ /min(ANR)	
Dimensions / Weight	1,200mm(W)×710mm(D)×1,200mm(H) (thread stand is not included), Machine head: 69kg, Control box: 16.5kg			

Model name	AMS-210EN-SS1510	AMS-210EN-HS1510	AMS-210EN-SL1510	AMS-210EN-HL1510
Sewing area	X: 150mm × Y: 100mm			
Feeding frame type	Monolithic 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	DP×5(#14)	DP×17(#18)	DP×5(#14)	DP×17(#18)
Thread	#80~#30	#50~#2	#80~#30	#50~#2
Compressed air / Air consumption	—		0.35~0.4(max. 0.55)MPa, 1.8dm ³ /min(ANR)	
Dimensions / Weight	1,200mm(W)×770mm(D)×1,200mm(H) (thread stand is not included), Machine head: 73kg, Control box: 16.5kg			

Model name	AMS-210EN-SL2210	AMS-210EN-HL2210
Sewing area	X: 220mm × Y: 100mm	
Feeding frame type	Monolithic feeding frame	
	Pneumatic feeding frame (lifting amount: 30mm)	
Application	Light- to medium-weight	Medium- to heavy-weight
Needle	DP×5(#14)	DP×17(#18)
Thread	#80~#30	#50~#2
Compressed air / Air consumption	0.35~0.4(max. 0.55)MPa / 1.8dm ³ /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

Model name	AMS-221EN-SS2516	AMS-221EN-HS2516	AMS-221EN-SL2516	AMS-221EN-HL2516
Sewing area	X: 250mm × Y: 160mm			
Feeding frame type	Monolithic feeding frame		Separately-driven feeding frame	
	Pneumatic feeding frame (lifting amount: 30mm)			
Application	Light- to medium-weight	Medium- to heavy-weight	Light- to medium-weight	Medium- to heavy-weight
Needle	DP×5(#14)	DP×17(#18)	DP×5(#14)	DP×17(#18)
Thread	#80~#20	#50~#2	#80~#20	#50~#2
Compressed air / Air consumption	0.5~0.55(max. 0.55)MPa, 1.8dm ³ /min(ANR)			
Dimensions / Weight	1,200mm(W)×1,000mm(D)×1,200mm(H) (thread stand is not included), 197kg			

Model name	AMS-221EN-HS3020
Sewing area	X: 300mm × Y: 200mm
Feeding frame type	Monolithic feeding frame
	Pneumatic feeding frame (lifting amount: 30mm)
Application	Medium- to heavy-weight
Needle	DP×17(#18)
Thread	#50~#2
Compressed air / Air consumption	0.35~0.4(max. 0.55)MPa, 1.8dm ³ /min(ANR)
Dimensions / Weight	1,200mm(W)×1,000mm(D)×1,200mm(H) (thread stand is not included), 207kg