



三一筑工

PCTEAM SSRE
Intelligent Rebar
Requirement for
Building Construction

SSRE Intelligent Rebar Equipment

Focuses on the research and development of equipment for prefabricated building rebar components. By relying on self-developed efficient mesh welding and bending technology, it can achieve full intelligent production of vertical 3D rebar; relying on self-developed PMES system, flexible mesh welding and truss automatic forming can be achieved, and through mesh/truss grabbing and throwing robot, it can achieve JIT coordination with PC production line, and realize intelligent production of transverse component 3D rebar.



01 Automation Equipment

- AAC Mesh Welding Production Line
- RM36A Automated Rebar Welding Mesh Production Line
- RM33S Automated Rebar Welding Mesh Production Line
- RM36ZA Automated Rebar Welding Mesh Production Line
- RM33T Automated Rebar Welding Mesh Production Line
- SSPL36A Flexible Mesh Forming Production Line
- LG16A Automated Rebar Truss Production Line
- GT12A CNC Wheel Straightening Machine
- MB12A Multi-functional CNC Hoop Bending Machine

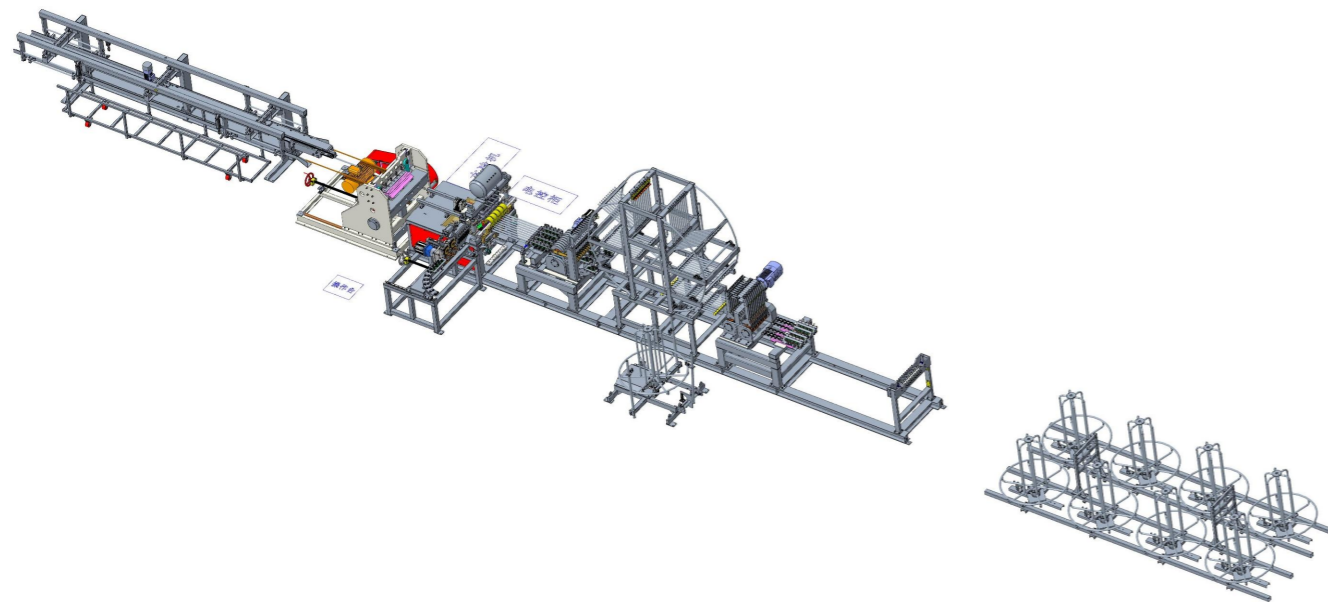


02 Digital Drive JIT Collaboration

- MF36ML Steel Mesh Forming Production Line
- LG16AD+TM312B Truss Production Line

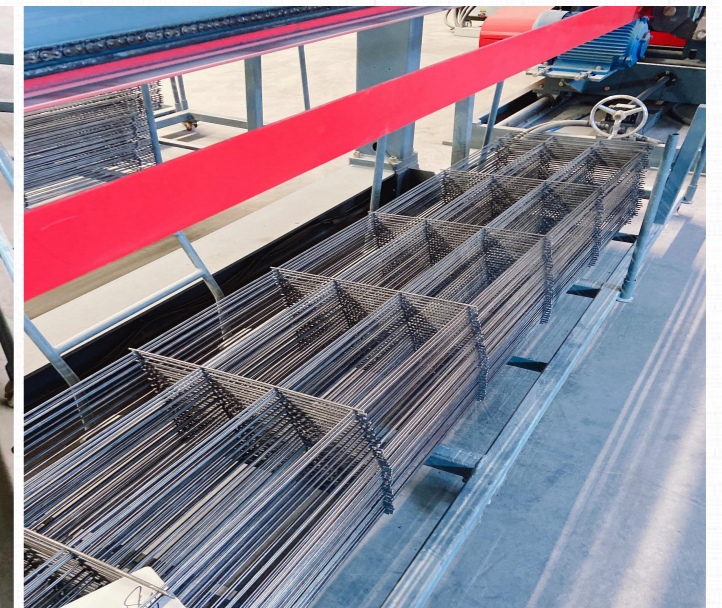
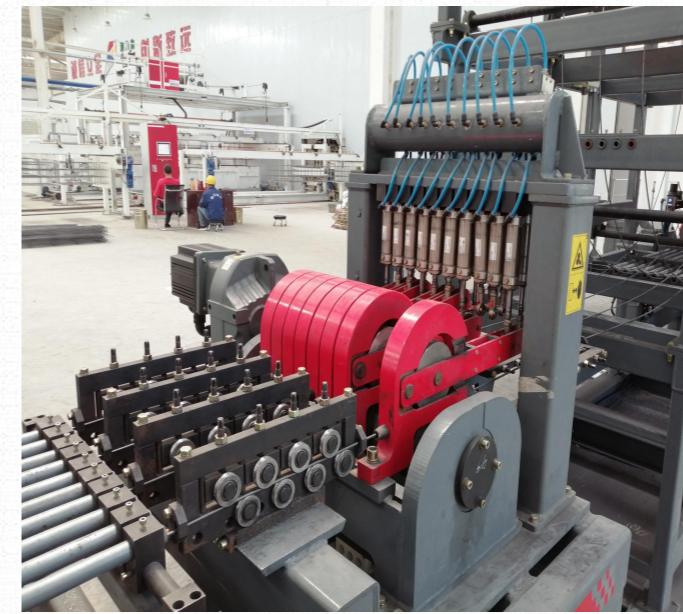
AAC Mesh Welding Production Line

Mainly used for fully automatic production of steel mesh sheets for autoclaved aerated concrete (AAC) panels



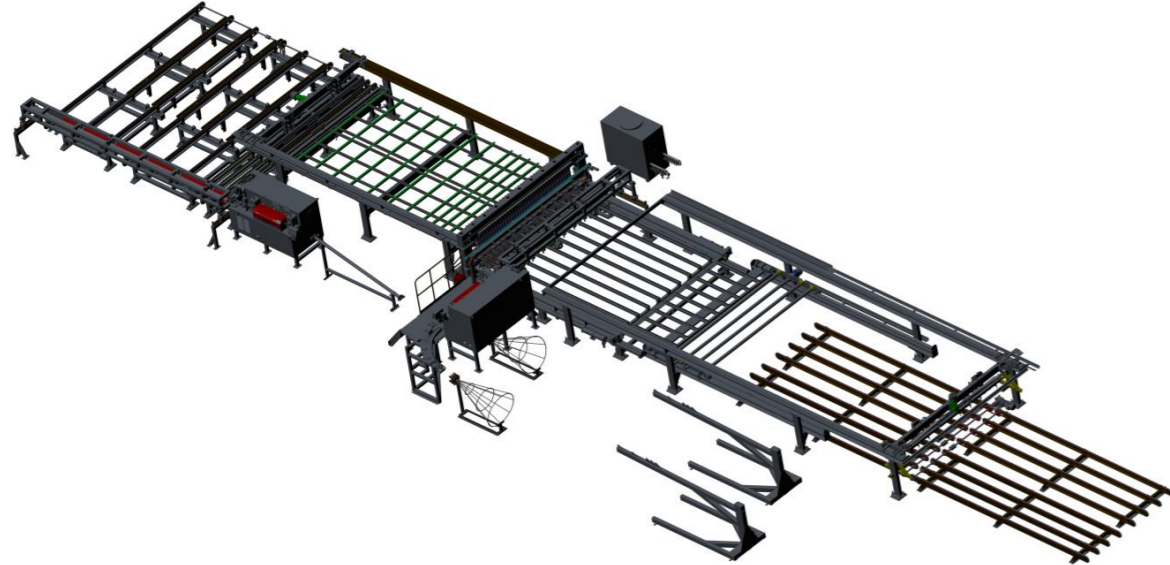
- Transverse and longitudinal bar servo control, fully automatic high-precision feeding
- Intelligent start-stop of cooling, straightening, and other systems to reduce equipment energy consumption
- Self-adaptive adjustment of mesh cutting position
- Professional welding controller, convenient and fast parameter adjustment

1	Longitudinal/transverse bar	Diameter $\Phi 4$ mm - $\Phi 6$ mm
2	Welding spot	10 (customer provided butt welding machine)
3	Welding speed	60 rows/min
4	Feeding method	Fully automatic feeding of longitudinal and transverse bars (raw material tray is sufficient)
5	Mesh deviation	Longitudinal bar ± 3 mm / Transverse bar ± 3 mm
6	Specification	1,500 mm \leq Length \leq 6,000 mm; Width: 480-500 mm
7	Longitudinal bar spacing	Increasing by 50 mm
8	Transverse bar spacing	≥ 25 mm adjustable without limit
9	Discharge speed	≥ 14 m/min
10	Gross power	Transformer 400 kVA, others 26 kW
11	Gas consumption	1.8 m ³ /min (customer-provided air compressor)

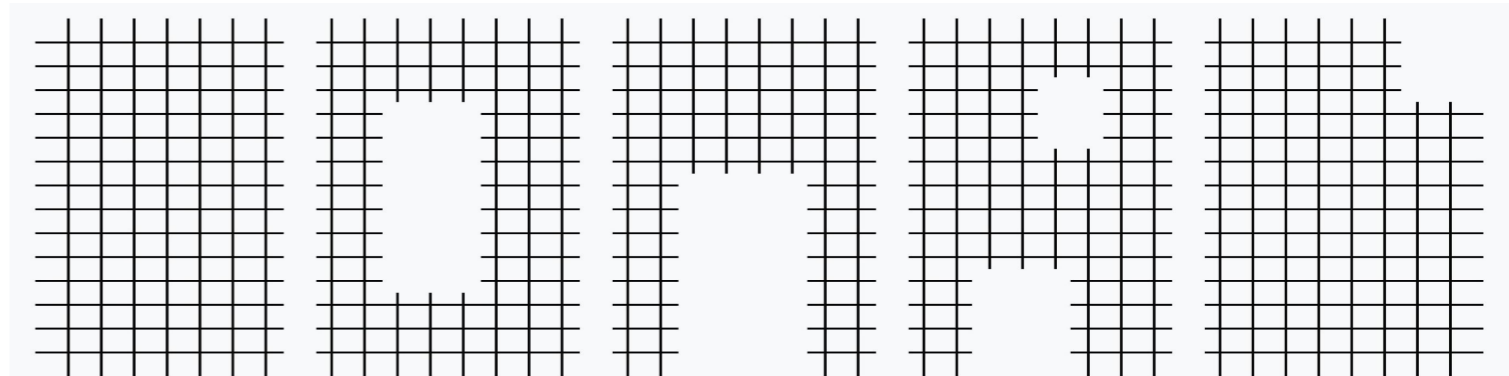


RM36A Automated Rebar Welding Mesh Production Line

Mainly used for the fully automatic production of standard and non-standard mesh sheets in the fields of building construction and highways.



- One-time mesh pulling and unloading technology, with an accuracy increased by 50%.
- Mesh offset production, small distance for transverse bars to be fed, 30% reduction in time for single bar usage.
- Brand new longitudinal mesh unloading device, more convenient unloading, with an increase of 50% in space utilization.
- Single bar welding time ≤ 3 s, mesh specification coverage rate with an increase of 35%.

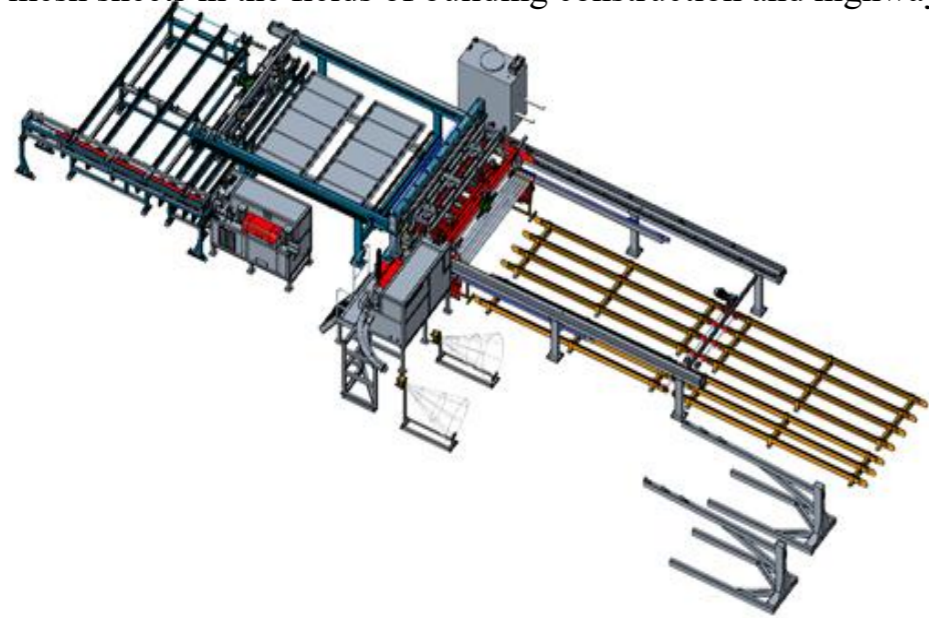


Main parameters		Remarks
Mesh machine model	SSRE-RM36A Automated Rebar Welding Mesh Production Line	It includes functions such as automatic straightening, cutting, fabric laying, feeding, welding, and aggregate, this machine can start production with just one click after importing drawings or data. It can produce standard and non-standard meshes (with doors, windows, and openings).
Processing scope:	Mesh width: 700 mm to 3,600 mm Mesh Length: 1,000 mm to 7,000 mm	Longitudinal bar spacing: Minimum 50 mm, increasing by 50 mm increments Spacing between transverse bar: ≥ 50 mm adjustable without limit
Total power/power consumption	153 kW+8 × 160 kVA	The number of transformers working synchronously can be adjusted according to customer requirements to reduce power supply capacity
Equipment covering area	Length × Width × Height: 36,000 mm × 11,000 mm × 2,200 mm	About 395 m ²
Production capacity	Average cycle time per mesh sheet is approximately 2.5 min	Calculated based on specifications of 3,300 × 4,500 mm, with a transverse bar spacing of 100 mm.

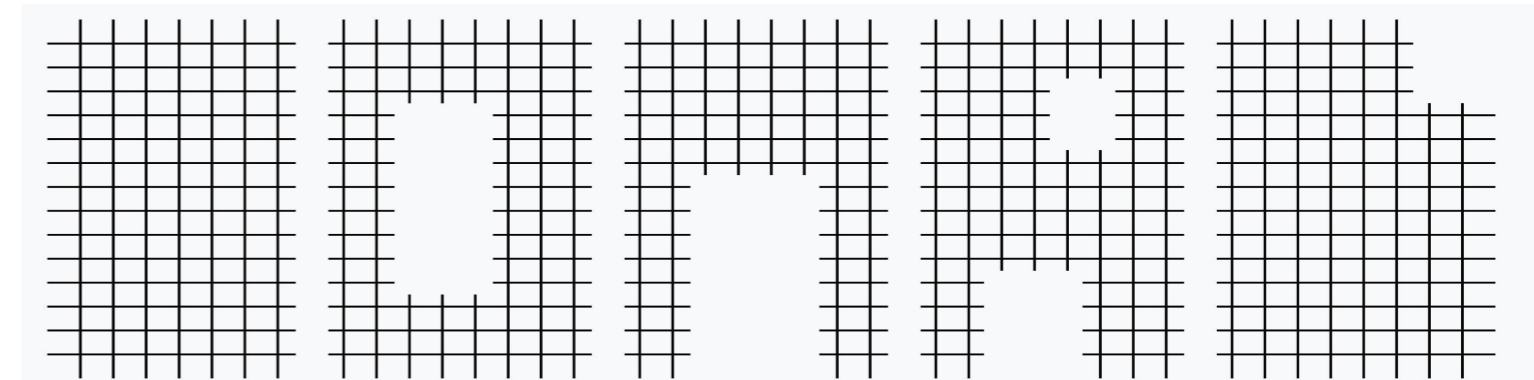


RM33S Automated Rebar Welding Mesh Production Line

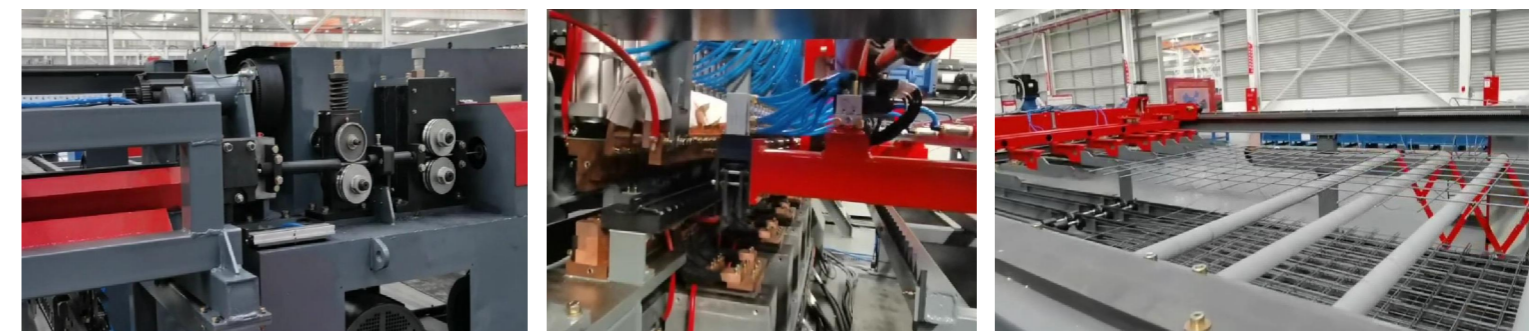
Mainly used for the fully automatic production of standard and non-standard mesh sheets in the fields of building construction and highways.



- A small covering area, with a total length of less than 24 m.
- One-time net pulling and unloading technology, with a single trolley grabbing the first transverse bar and continuously unloading the net, with an accuracy increase of 50%.
- Mesh offset production, small distance for transverse bars to be fed, 30% reduction in time for single bar usage.
- Brand new longitudinal mesh unloading device, more convenient unloading, with an increase of 50% in space utilization.

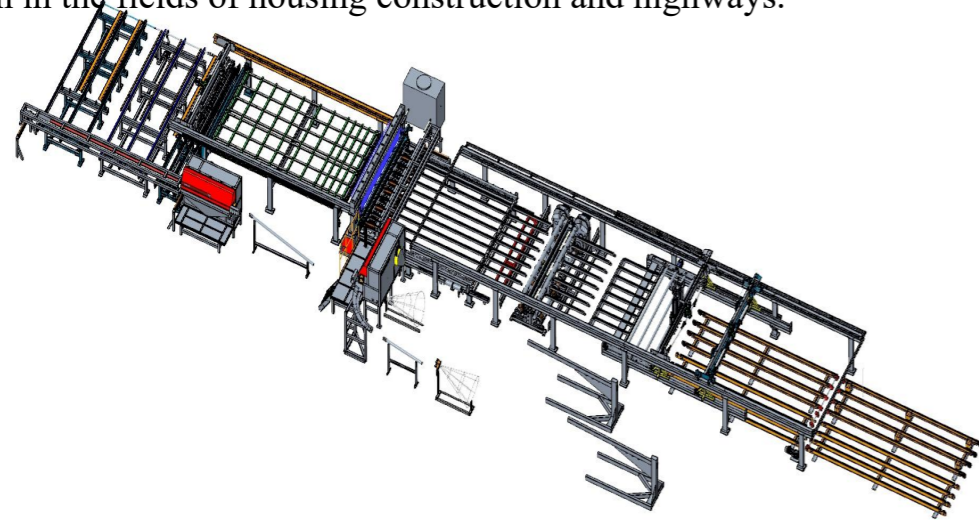


Main parameters		Remarks
Mesh machine model	SSRE-RM33S Automated Rebar Welding Mesh Production Line	It includes functions such as automatic straightening, cutting, fabric laying, feeding, welding, and aggregate, this machine can start production with just one click after importing drawings or data. It can produce standard and non-standard meshes (with doors, windows, and openings).
Processing scope:	Mesh width: 700 mm to 3,300 mm Mesh Length: 1,000 mm to 5,000 mm	Longitudinal bar spacing: Minimum 50 mm, increasing by 50 mm increments Spacing between transverse bar: ≥ 50 mm adjustable without limit
Total power/power consumption	150 kW + 5 × 160 kVA	The number of transformers working synchronously can be adjusted according to customer requirements to reduce power supply capacity
Equipment covering area	Length × Width × Height: 23500 mm × 10500 mm × 2200 mm	About 247 m ²
Production capacity	Average cycle time per mesh sheet is approximately 2.5 min	Calculated based on specifications of 3,300 × 4,500 mm, with a transverse bar spacing of 100 mm.

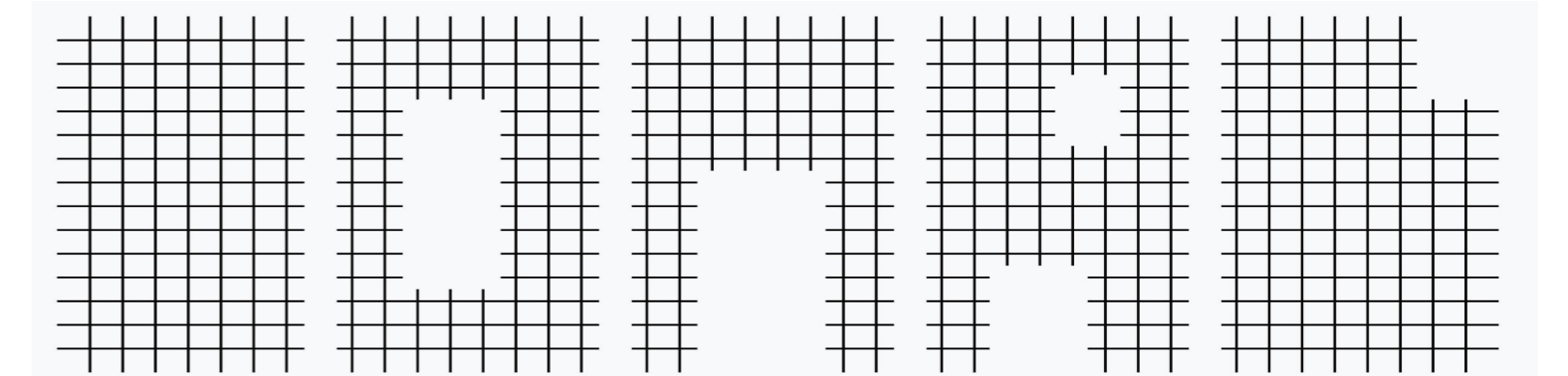


RM36ZA Automated Rebar Welding Mesh Production Line

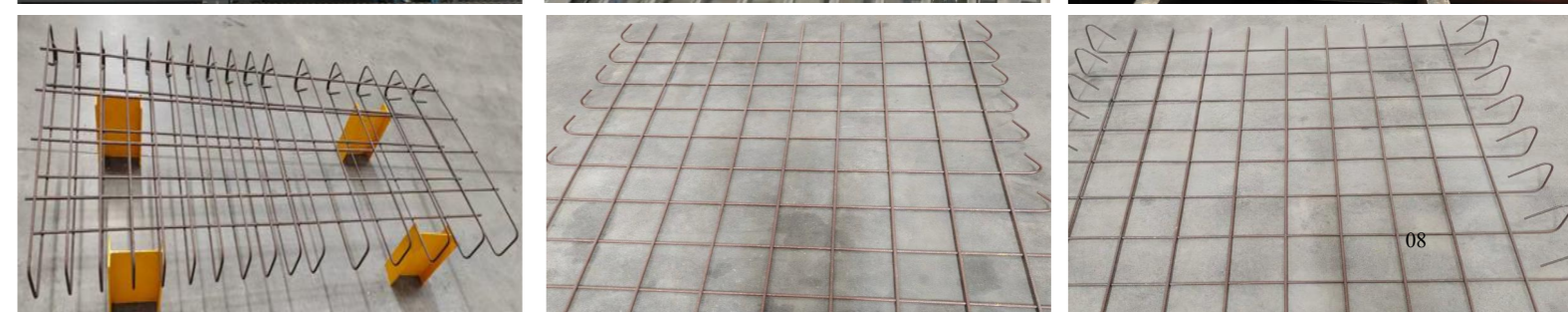
Mainly used for fully automatic production of standard, non-standard, and bent mesh in the fields of housing construction and highways.



- Laminated board mesh within 3.6 m in length can be formed in one step (including bent hooks).
- For S-shaped component A/B side, closed mesh cages can be formed in one step, with an efficiency increased by 3 times and a labor reduced by 6 people.
- One-time mesh pulling and unloading technology, with an accuracy increased by 50%.
- Mesh offset production, small distance for transverse bars to be fed, 30% reduction in time for single bar usage.
- Brand new longitudinal mesh unloading device, more convenient unloading, with an increase of 50% in space utilization.
- Single bar welding time ≤ 3 s, mesh specification coverage rate with an increase of 35%.

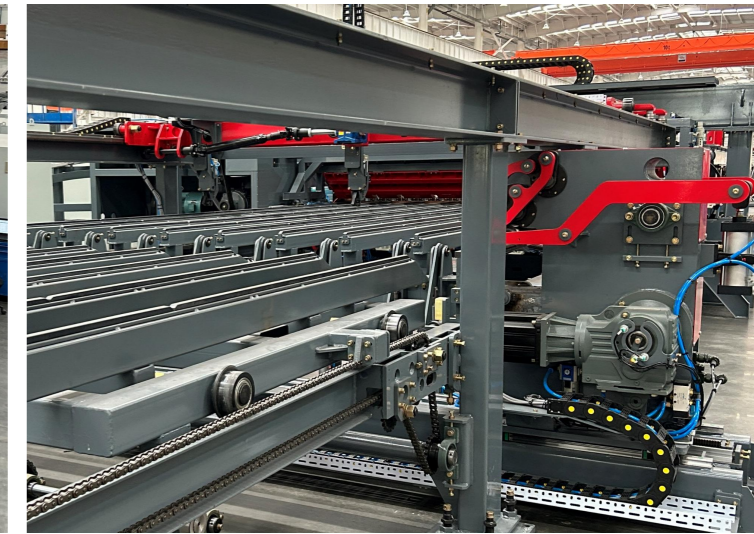
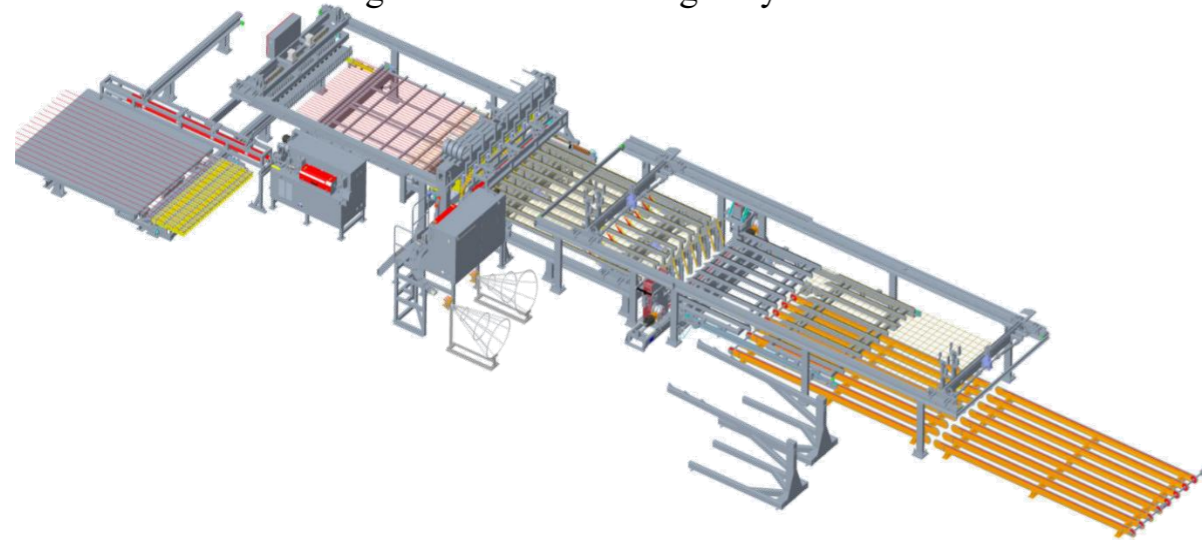


Main parameters		Remarks
Mesh machine model	SSRE-RM36ZA Automated Rebar Welding Mesh Production Line	It includes functions such as fully automatic straightening, cutting, fabric laying, feeding, welding, longitudinal bar bending/mesh cage forming bending, aggregate, etc. After importing drawings or data, one-click start for fully automatic production is available, capable of producing standard and non-standard meshes (with doors and window openings).
Processing scope:	Mesh width: 700 mm to 3,600 mm Mesh Length: 1,000 mm to 7,000 mm	Longitudinal bar spacing: Minimum 100 mm, increasing by 50 mm increments Spacing between transverse bar: ≥ 50 mm adjustable without limit
Total power/power consumption	185 kW+8 × 160 kVA	The number of transformers working synchronously can be adjusted according to customer requirements to reduce power supply capacity
Equipment covering area	Length × Width × Height: 41,300 mm × 11,000 mm × 2,200 mm	About 455 m ²
Production capacity	The average cycle time per mesh/cage is about 2.5 min.	Calculated based on specifications of 3,300 × 4,500 mm, with a transverse bar spacing of 100 mm.

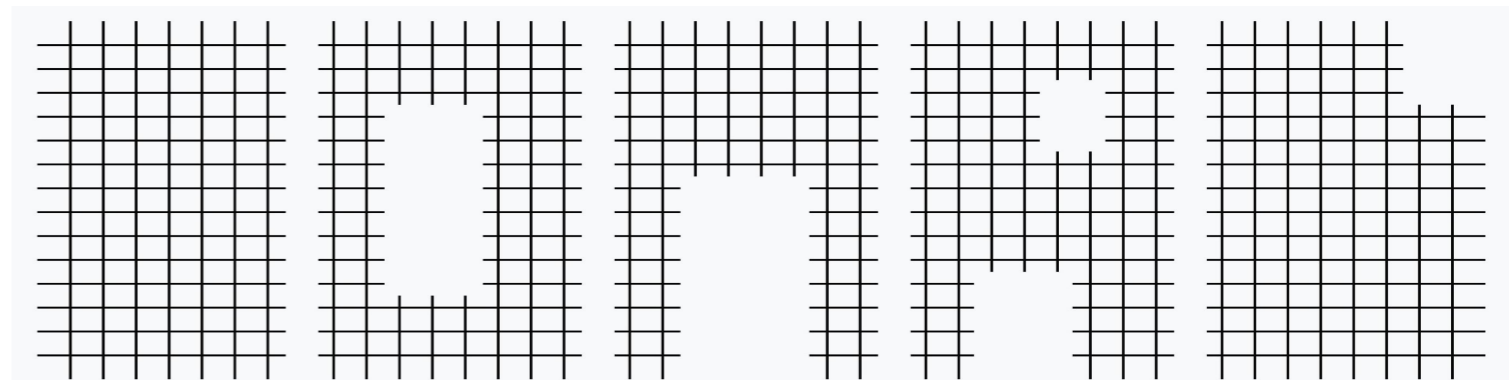


RM33T Automated Rebar Welding Mesh Production Line (bidirectional poleless)

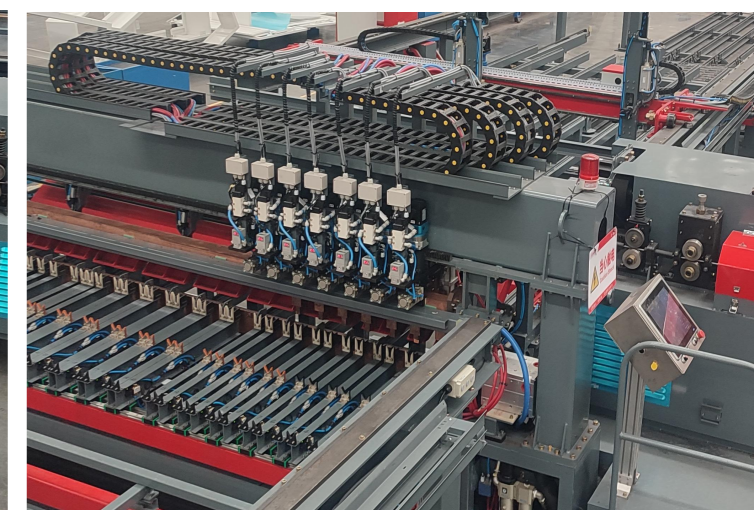
Mainly used for fully automatic production of standard, non-standard, and bent mesh in the fields of housing construction and highways.



- The longitudinal bar is adjustable without limit, reducing the cost of each component by approximately 24 yuan compared to traditional mesh machines.
- Using intermediate frequency welding technology, energy consumption is reduced by more than and equal to 30% compared to traditional mesh machines.
- One-time mesh pulling and unloading technology, with an accuracy increased by 50%.
- Mesh offset production, small distance for transverse bars to be fed, 30% reduction in time for single bar usage.
- Standard equipment includes bending of transverse bar and automatic aggregate of bent mesh, reducing the labor by 2 people.

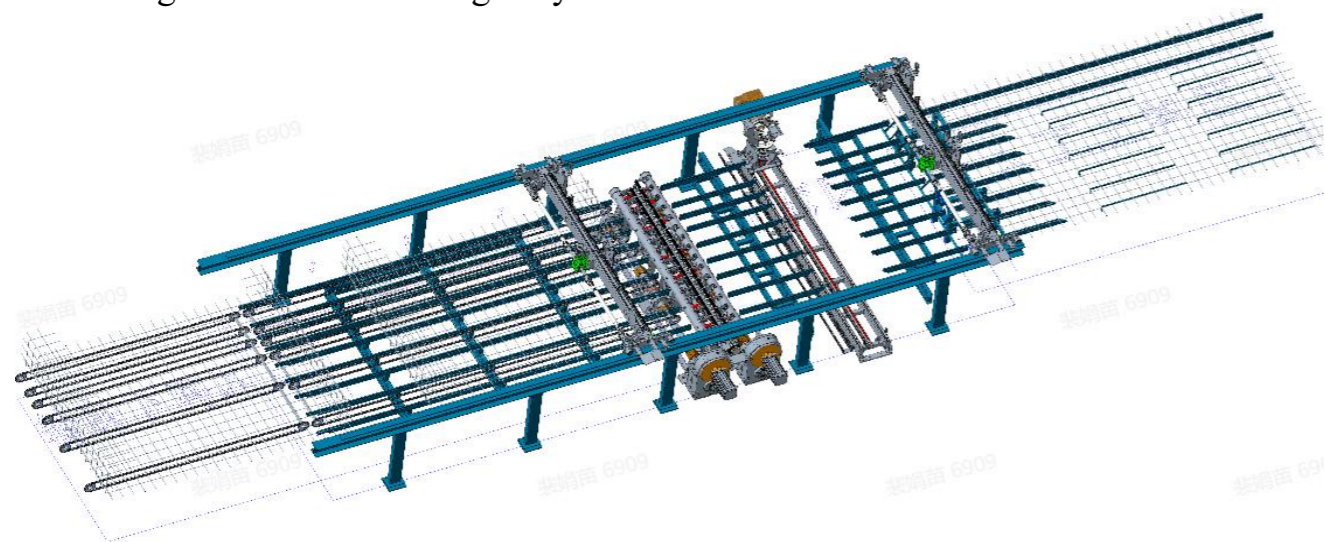


Project	Parameters	Project	Parameters
Mesh type	Standard mesh, non-standard mesh (mesh with door and window gaps), Mesh with bends	Welding transformer	Medium frequency transformer
Rebar diameter	Longitudinal bar (φ5-φ12) and transverse bar (φ5-φ12)	Single mesh cycle time	≤3 min (16 transverse bars × 8 longitudinal bars)
Longitudinal bar spacing	≥50 mm, adjustable without limit	Bending cycle time	3 s/time, folding 1-4 bars each time
Transverse bar spacing	≥50 mm, adjustable without limit	Covering area	31 m × 10 m × 3 m (length × width × height)
Mesh width	500-3300	Input of mesh data	DXF format (CAD drawings), BIM data model
Mesh length	600-6000	Operation mode	Touch screen - automatic digital drive
Equipment covering area	Length × Width × Height: 31,000 mm×10,000 mm×3,000 mm	About 310 m ²	Equipment covering area



SSPL36A Flexible Mesh Forming Production Line

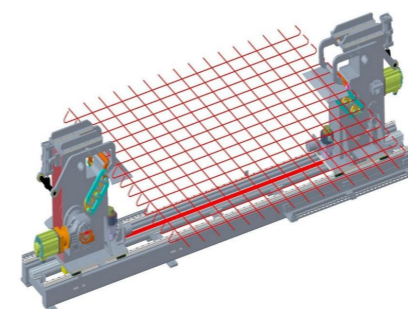
Mainly used for fully automatic production of bent meshes in the fields of building construction and highways.



- Laminated board mesh within 3.6 m in length can be formed in one step (including bent hooks).
- For S-shaped component A/B side, closed mesh cages can be formed in one step, with an efficiency increased by 3 times and a labor reduced by 6 people.
- Manual feeding, numerical-control automatic bending and forming, and manual unloading.
- Standard configuration with rapid mesh positioning device, unmanned manual measurement positioning.

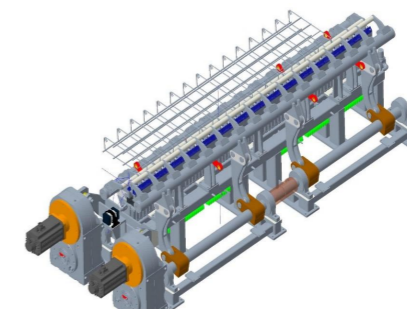


Project	Main parameters	Remarks
Bending machine model	SSRE-SPL36A Flexible mesh forming production line	Manual loading and unloading. The feeding configuration is equipped with automatic alignment mechanism, numerical control robot grabbing mesh bending. The bending types can be optionally matched with "transverse bar bending", "flying bar bending", "longitudinal bar bending", not recommended for combination.
Processing scope:	Mesh width: 700 mm to 3,600 mm Mesh Length: 1,000 mm to 7,000 mm	Longitudinal spacing: minimum 100 mm (with longitudinal bar bending function) Increased by 50 mm Spacing between transverse bar: ≥ 50 mm adjustable without limit Transverse and longitudinal bar bending: 0° - 135° , flying bars: a height of 70 mm
Equipment covering area	Length \times Width \times Height: 25,600 mm \times 9,000 mm \times 3,000 mm	About 230 m ²
Production capacity	Single mesh bending cycle ≤ 2 min	According to the specification of 3300 \times 4500 mm



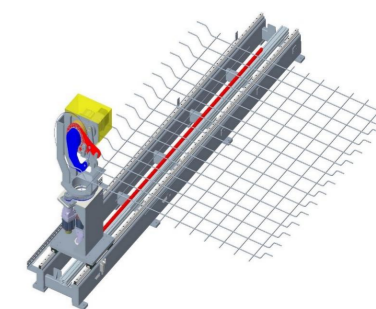
Multiple transverse bar bending

- High bending efficiency, bending 1-4 bars in a single operation
- Transverse bar bending for mesh of any width and shape
- Adaptive adjustment of bending parameters



Longitudinal bar bending and cage forming

- Overall bending forming with consistent bending quality
- Double-sided bending with high bending efficiency
- Electric drive structure being simple, stable and easy to adjust

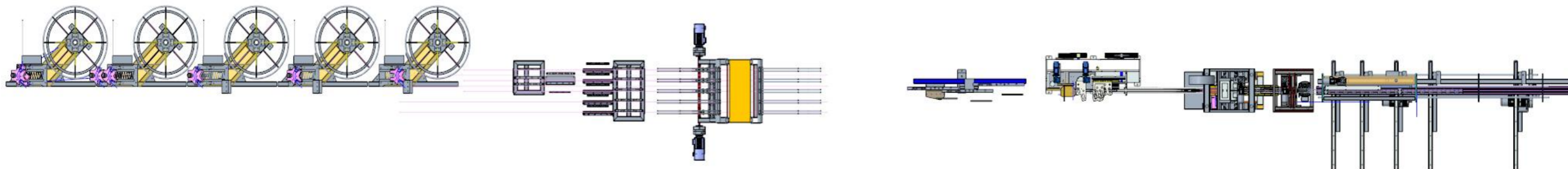


Bending of flying bars

- Single-head rotation and bidirectional bending
- Arbitrary width and irregular mesh flying bar bending
- Adaptive adjustment of bending parameters

LG16A Automated Rebar Truss Production Line

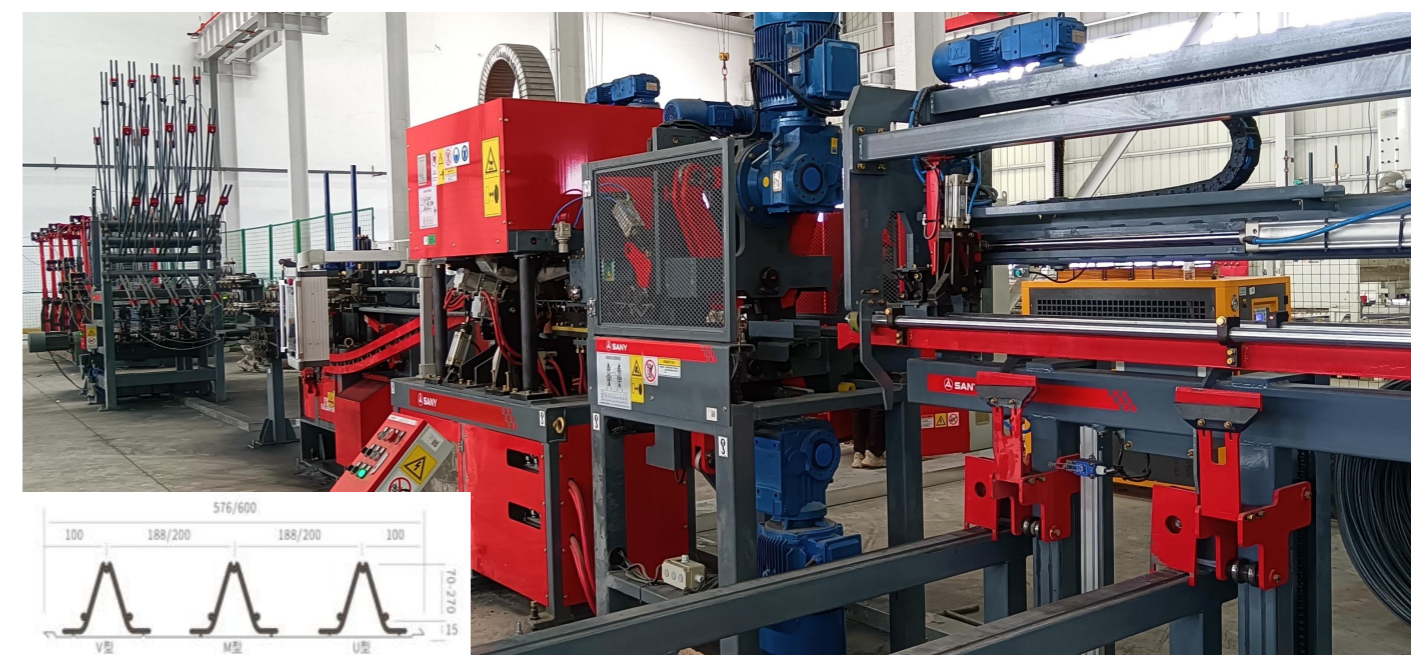
Mainly used for the automatic production of right-angle and anchor bending trusses in the fields of building construction and highway
 Realize the fully automatic production of non-removable (cement or steel structure) floor support mesh + truss assembly welding



- Truss pitch with 190-210 mm being adjustable without limit, can produce trusses of any length from 1.2 m to 12 m.
- All servo + variable frequency system, simple and reliable structure with low failure rate, long service life, and low maintenance requirements.
- Only one person is needed to operate the equipment, trusses can be automatically stacked, and equipment can be arranged in a mirrored layout, saving 50% of labor costs.
- Good human-machine engineering, simple debugging operation, convenient maintenance, and low reliance on operators.
- The core purchased parts are from top domestic and foreign brands, with Sany after-sales service and quality assurance system, ensuring lifelong worry-free service.

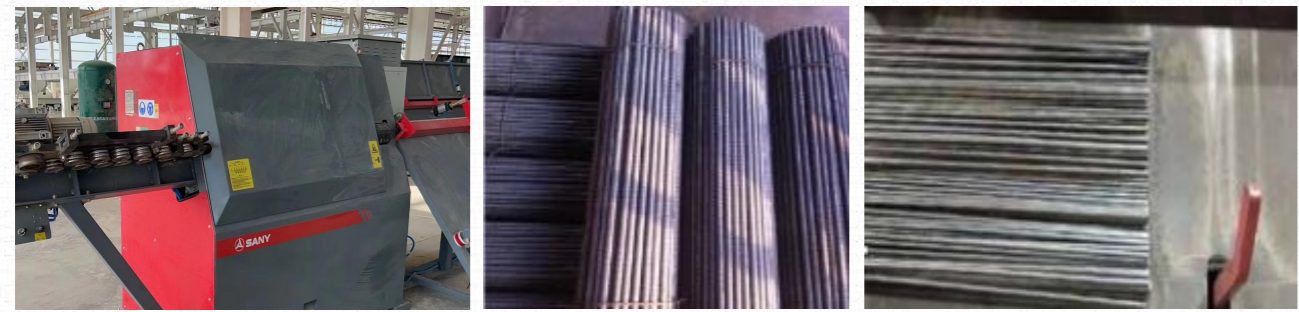
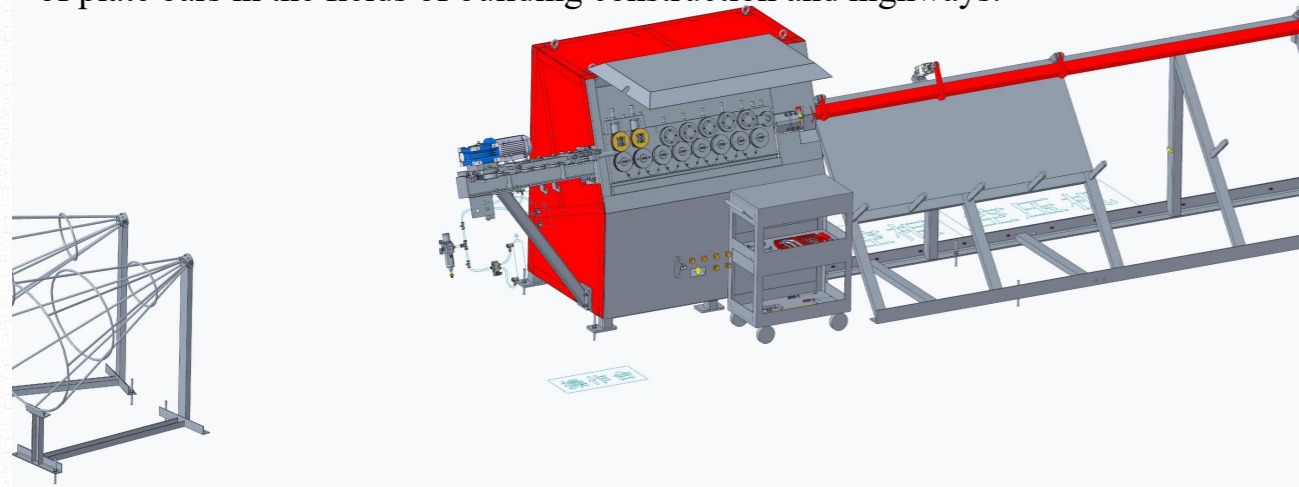


Project	Main parameters	Remarks
Truss machine model	SSRE-LG16A Automated Rebar Truss Production Line	Consisting of paying-off rack, straightening module, forming module, welding module, shearing module, aggregate module, and optional bending module for producing anchor bending type of floor truss frames.
Processing scope:	Truss height: 70 mm to 300 mm Truss length: 1,200 mm to 12,000 mm	Truss pitch adjustable from 190 mm to 210 mm
Total power/power consumption	87 kW + 2 × 200 kVA	The number of transformers working synchronously can be adjusted according to customer requirements to reduce power supply capacity
Equipment covering area	Length × Width × Height: 37,000 mm × 4,000 mm × 42,000 mm	About 150 m ²
Production capacity	Welding speed ≤15 m/min	Excluding the time consumed for shearing shutdown, aggregate adjustment, and raw material adjustment



GT12A CNC Wheel Straightening Machine

Mainly used for fully automatic production of straightening and fixed length cutting of plate bars in the fields of building construction and highways.

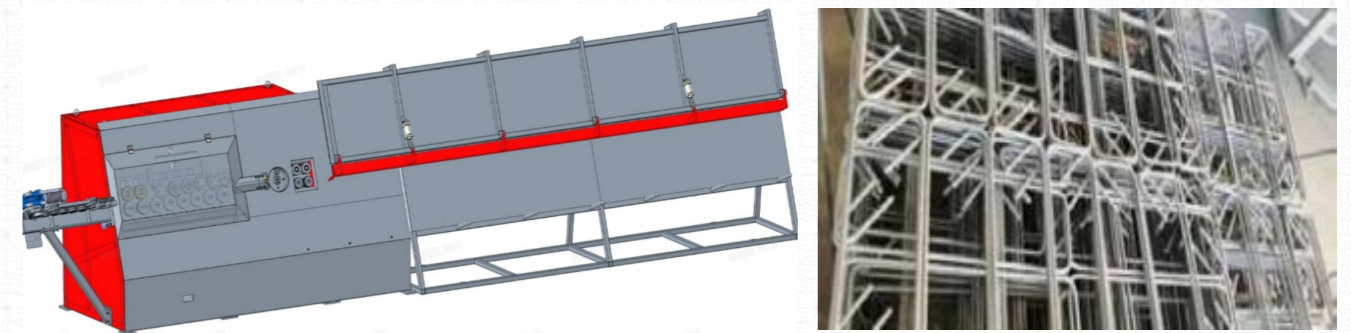


- Configure the straightening adjustment mechanism, with a single adjustment time of less than 5 min for pressure wheels.
- Convenient maintenance and occupying an area decreased by 45%, while the main engine power increased by 18%.
- For the self-developed upper computer system, tasks can be remotely imported with one click, including real-time online capacity and data.
- The core purchased parts are from top domestic and foreign brands, with Sany after-sales service and quality assurance system, ensuring lifelong worry-free service.

Main parameters		Remarks
Straightening machine model	SSRE-GT12A CNC wheel straightening machine	It automatically completes the processes of straightening, sizing and cutting etc. of bars using the wheel straightening working mode, with a full servo closed-loop control system. The equipment is easy to operate, convenient, and highly efficient.
Processing scope:	Single-line processing: ϕ 5-12 mm Double-line processing: ϕ 5-10 mm	Disc, cold-rolled ribbed bars, hot-rolled ribbed bars (Grade II, III, IV steel)
Total power/Power consumption	35.5KW	Power consumption reduced by more than 30% compared to traditional hub pressure straightening machine
Equipment covering area	Length \times Width \times Height: 22,800 mm \times 3,340 mm \times 2,110 mm	About 75 m ²
Production capacity	Straightening length: 10 mm~12,000 mm Maximum traction speed: 110 m/min	Standard 6 m material feeding rack, which can be extended optionally according to customer requirements

MB12A Multi-functional CNC Hoop Bending Machine

Mainly used for fully automatic production of straightening, bending and shearing of bars in the fields of building construction and highways.

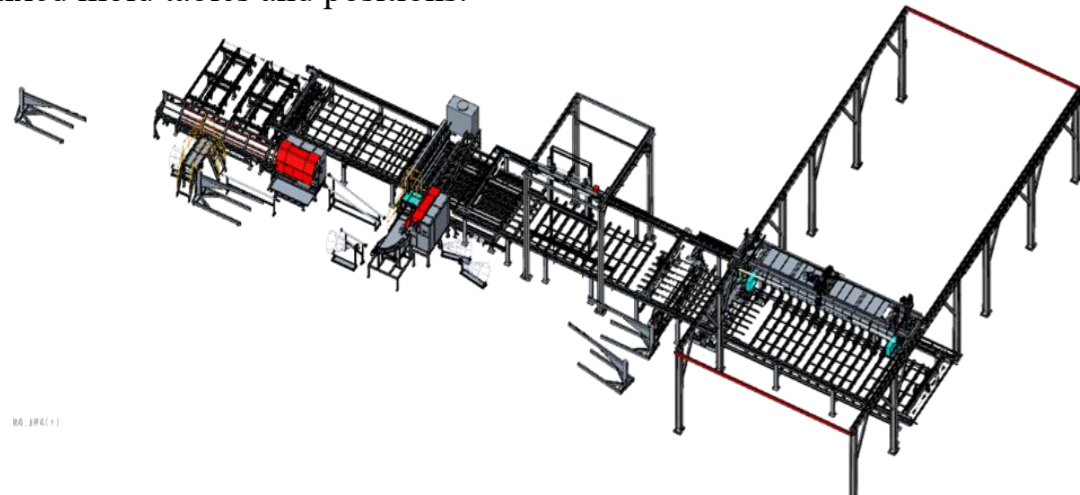


- Configure the straightening adjustment mechanism, with a single adjustment time of less than 5 min for pressure wheels.
- Equipped with a rebar anti-twisting mechanism, strong adaptability, high workpiece qualification rate, and a torsion angle less than 5°.
- Tasks can be imported remotely with just one click, with real-time online production capacity and data, and a rich library of images that can be accessed with just one click.
- The core purchased parts are from top domestic and foreign brands, with Sany after-sales service and quality assurance system, ensuring lifelong worry-free service.

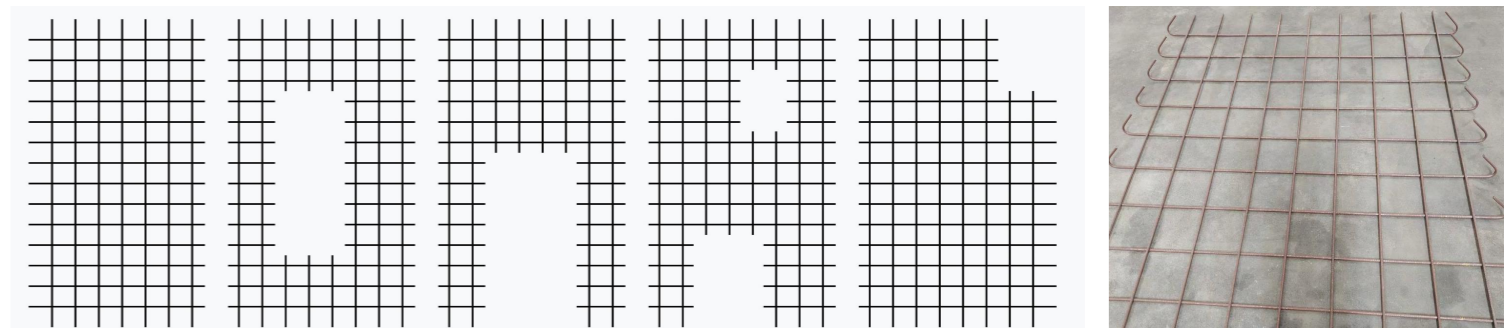
Main parameters		Remarks
Hoop bending machine model	SSRE-MB12A Multi-function CNC bar bending machine	It automatically completes the processes of straightening, sizing and cutting etc. of bars using the wheel straightening working mode. It can bend in both directions and double lines, completing the production of flying bars, hooks, and plate reinforcement, making it versatile. It has powerful graphic storage capabilities.
Processing scope:	Single-line processing: ϕ 5-12 mm Double-line processing: ϕ 5-8 mm Flying bar side length: 90-1,000 mm	Disc, cold-rolled ribbed bar, hot-rolled ribbed bar (Grades II, III, IV); which can process flying bars, hook bars, plate bars; standard 6 m feeding rack, which can be extended according to customer requirements.
Total power/Power consumption	44.5KW	Equipped with wire feeding mechanism and servo return mechanism
Equipment covering area	Length \times Width \times Height: 24,500 mm \times 3,340 mm \times 1,780 mm	About 82 m ²
Production capacity	Maximum traction speed: 110 m/min Maximum bending speed: 1200°/sec	Bending angle in both directions: \pm 180°

MF36ML 3D Bar Mesh Forming Production Line

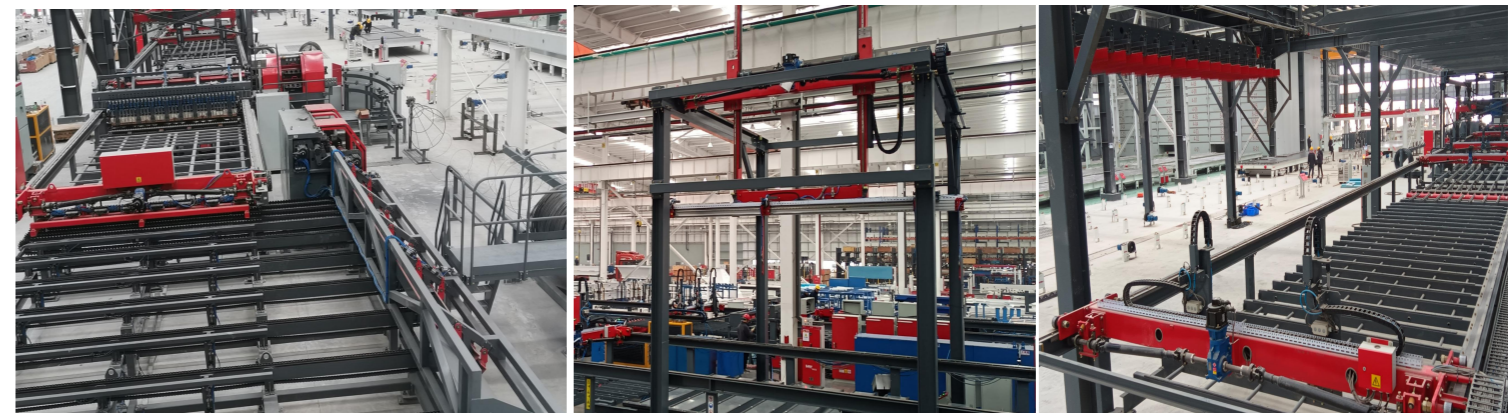
Combined with the PC production line, forming a full numerical control production line through the P+RMES system, achieving JIT collaborative production with the PC production line, completing the production of required standard, non-standard, and bent mesh, as well as fully automatic placement of fixed mold tables and positions.



- One-pull mesh forming technology, with an accuracy increased by 50%.
- Mesh offset production, small distance for transverse bars to be fed, 30% reduction in time for single bar usage.
- Single bar welding time ≤ 3 s, mesh specification coverage rate with an increase of 35%.
- Optional upper and lower transverse bars, transverse bar bending module, full-process numerical control, can be matched online and placed on the PC model table.
- Single mode platform deployment cycle ≤ 8 min, saving more than 10 workers.

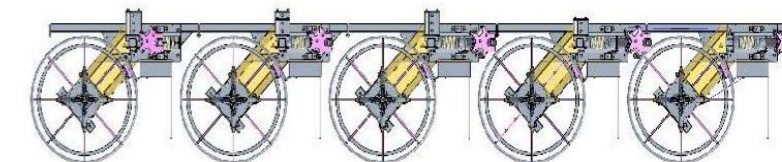
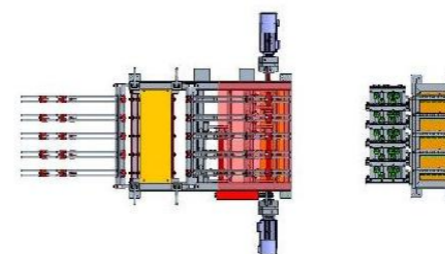
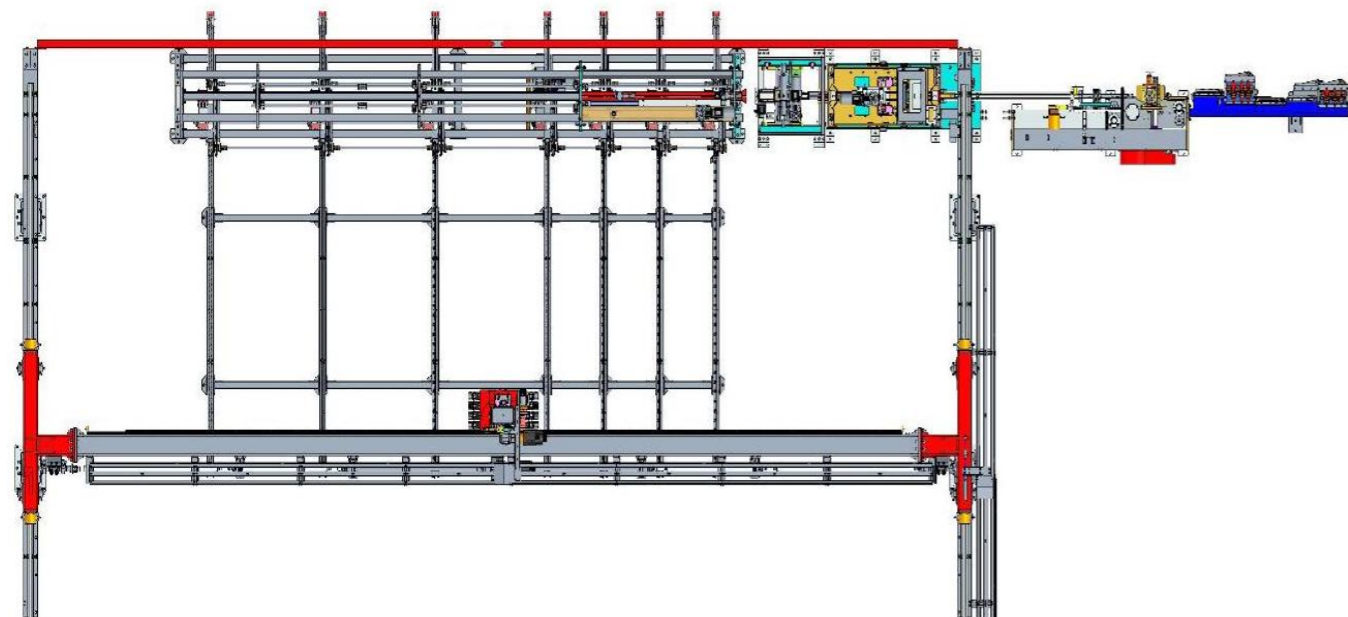


Main parameters		Remarks
Mesh machine model	SSRE-MF36ML Automated Rebar Welding Mesh Production Line	Including functions such as automatic straightening, cutting, fabric laying, feeding, welding, mesh flipping, transverse bar bending, mesh grabbing and placing. After importing drawings or data, one-click start of fully automatic production can be achieved, and linkage with PC to realize JIT grabbing and placing of mesh. Be able to produce standard meshes and non-standard meshes (with door and window openings), as well as laminated board mesh.
Processing scope:	Mesh width: 700 mm to 3,600 mm Mesh Length: 1,000 mm to 7,000 mm	Longitudinal bar spacing: Minimum 100 mm, increasing by 50 mm increments Spacing between transverse bar: ≥ 50 mm adjustable without limit
Total power/Power consumption	250 kW + 8 × 160 kVA	The number of transformers working synchronously can be adjusted according to customer requirements to reduce power supply capacity (slightly reducing welding efficiency).
Equipment covering area	Length × Width × Height: 56,000 mm × 26,000 mm × 7,100 mm	About 760 m ²
Production capacity	The average cycle time per mesh/cage is about 3 min.	Calculated based on specifications of 3,300 × 4,500 mm, with a transverse bar spacing of 100 mm.



LG16AD+TM312B Truss Production Line

Combined with the PC production line, forming a full numerical control production line through the P+RMES system, achieving JIT collaborative production with the PC production line, completing the production of required trusses as well as fully automatic placement of fixed mold tables and positions.



- Multi-functional: automatic self-sufficiency of fabric, free switching of external order production.
- Intelligitization: BIM digital model drives the production line directly with a single mold unit deployment cycle of ≤ 12 min.
- High efficiency: Welding line speed up to 14 m/min, and pitch adjustable between 190-210 mm.
- Long lifespan: Unique structure with embedded vulnerable parts, increasing lifespan by 30%.
- Predictive maintenance: Intelligent online guidance for maintenance and repair.



	Code	Subequipment	Drawing Number	Remark
1	SRE007472383	12 m bar truss manipulator	STM312B_0	Suitable for 12 m mold platform
2	SRE100000037	Automatic sorting production line for truss	SSRE-LG16AD	Mandatory

RMES Numerical Control 3D Rebar Cage Production Management System

It achieves automatic drawing import, automatic parsing and extraction of rebar data, numerical control mesh production, automatic control of five major processes including flying bar, longitudinal bar bending, mesh storage and placement, to complete efficient production, distribution, and placement of rebar components.



- **Design Parsing:** Parse mainstream BIM design data, extract component design model data, reorganize production process data according to system standards, drive rebar component production as needed, effectively reduce inventory, and increase production efficiency by more than 10 times compared to traditional methods.
- **Drive production:** The system drives equipment to automatically or semi-automatically produce, store, deliver, and complete the production of rebar components based on the design models and data output by PKPM, PlanBar, Revit, and AutoCAD.
- **Online Management:** Accurate production line output, quality data dashboard, and daily reports are pushed, and production data is traceable.
- **Cloud-based predictive maintenance:** Touchscreen, mini-program, and central control MES end push equipment warning maintenance information and solutions, SPCI mini-program one-click call, quick response, and continuous production support for customers.

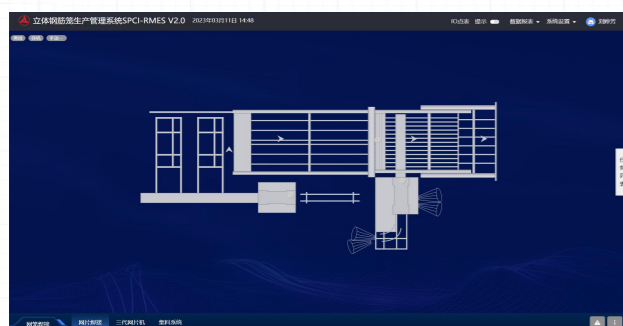
Software Page



Mesh production



Truss production



Mesh welding



Self-troubleshooting and one-click call

Professional Installation

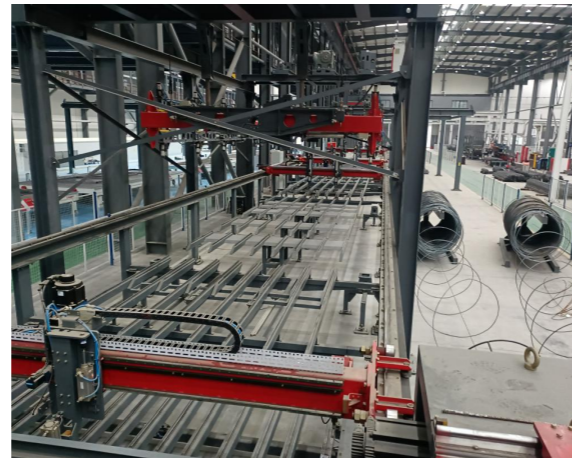
With a professional installation team of nearly 300 people covering more than 30 provinces and cities nationwide, the installation is efficient and professional. The rebar equipment production line is a set of equipment with high automation, complex operating environment, and high reliability requirements. On the one hand, high-quality manufacturing quality is required, and on the other hand, continuous improvement in on-site installation is also essential. Rebar equipment production line equipment accounts for 70% of the quality and 30% of the installation. In order to ensure the provision of the best quality products for customers, PCTEAM provides professional guarantees in terms of installation personnel, tools and equipment, operation techniques, and material modular materials.



Application Examples



Hubei



Shandong



Beijing



Hebei



Jiangsu



Hunan



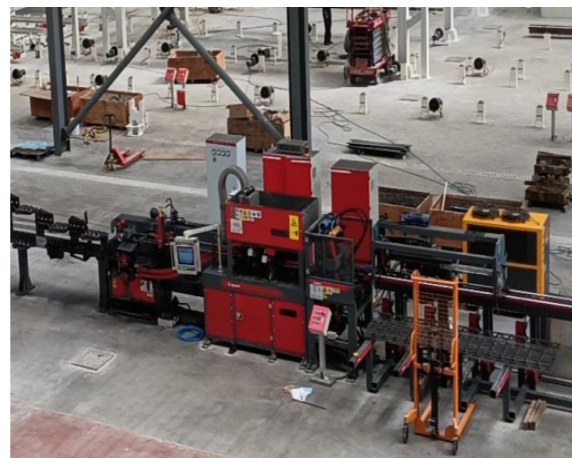
Yunnan



Gansu



Guangzhou



Shaanxi



Chongqing



Sichuan

SERVICE

Worry-free Service

Choose Sany for worry-free life



Service philosophy
Everything is for customers, creating customer value

Service commitment
Choose Sany for worry-free life

Service goals
Exceeding customer expectations and surpassing industry benchmarks

Service advantages

"12127" service commitment

- Replying to calls and WeChat messages within **15** minutes
- Resolving issues online within **2** hours
- Resume temporary production or solve problems offline within **1** day
- Common parts delivery or offline problem solving within **2** days
- Resolve special issues within **7** days

Quantitative digital commitments and clear compensation methods.

Based on excellent product quality and service quality, Sany Heavy Industry has pioneered the industry's first 'Lifetime Worry-Free' service commitment, which combines 'quantified commitment mathematics' and 'clear compensation methods.' The Lifetime Worry-Free service commitment symbolizes a new height in Sany's product quality, performance, and service, and also marks a new milestone in Sany's service level.

Information service technology research and development service team

First ECC Enterprise Control Center in the industry, achieving real-time monitoring of equipment operating conditions and remote troubleshooting. The first global customer portal GCP system enables remote monitoring of equipment operation detection, fuel consumption, geographic location, and long-distance travel trajectory. The CSM customer service system realizes global networking of service information and implements tracking of online services. With over 3,000 service engineers, senior industry service experts, and over 20,000 headquarters R&D elites, a highly efficient service model of collaboration between first, second, and third-tier lines, and integration of heaven, earth, and human is achieved.

Carrier-level service resources provide efficient services at zero distance

Sany Heavy Industry has offices in more than 200 countries and regions worldwide, with 30 agents, over 50 major repair plants and 6S stores globally, employing more than 3,000 elite service engineers. The service radius is controlled within 100 km, with over 700 offices and parts warehouses storing over 80,000 types of parts worth over 500 million yuan. An efficient sea, land, and air logistics system ensures that original parts arrive immediately.

