Mesh Welding Machines

modular design for optimum productivity

IDEAL – superior reliability and support from our company

Clemens Jungeblodt sen.

Clemens Jungeblodt

Eberhard Jungeblodt

The shareholder: Dorothee Jungeblodt and Dipl.-Ing. Max Clemens Jungeblodt

IDEAL is a family owned and operated company that was founded 1923 under the name Elektro-Apparate-Bau GmbH, in Lippstadt, Germany.

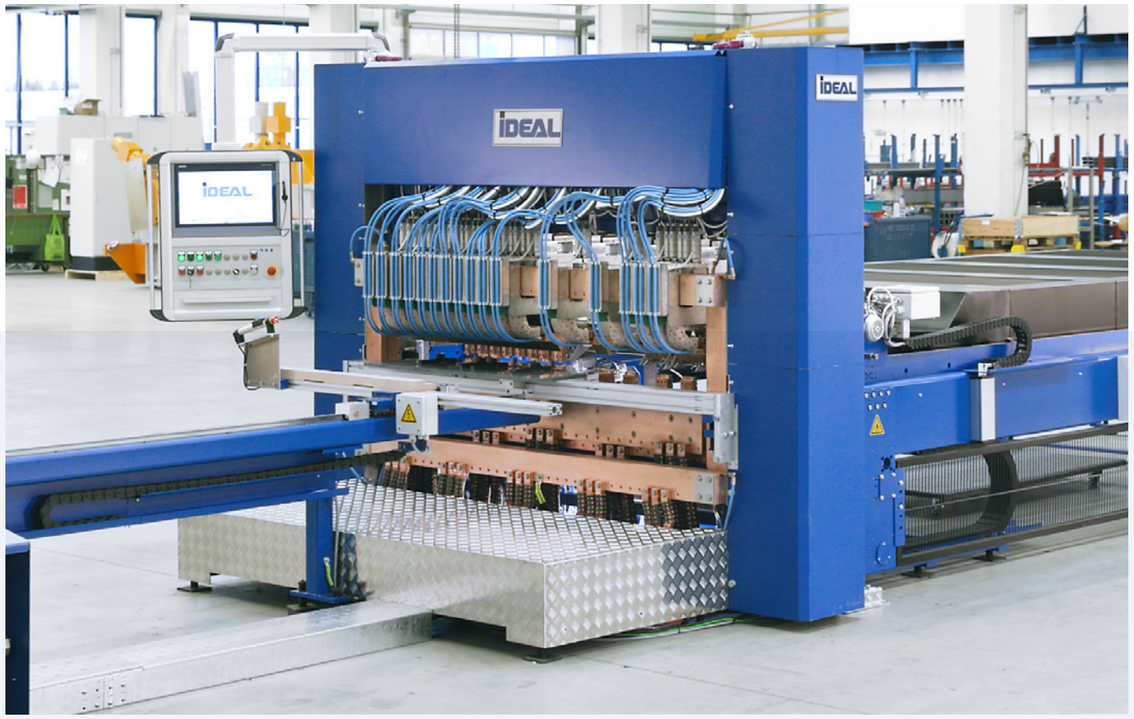
Since its inception, IDEAL is known for constant innovation and superior quality „Made in Germany" for our machines and our plant engineering. Currently managed by the family's third generation, our core competence at IDEAL remains the same – resistance and laser welding.

Im Jahr 2020 scheiden Dorothee Jungeblodt und Max Clemens Jungeblodt als Geschäftsführer aus und führen das Unternehmen als Gesellschafter in dritter Generation.

General Mangement: Dipl.-Ing. Katrin Goldhahn

Im selben Jahr übernimmt Dipl.-Ing. Katrin Goldhahn die Geschäftsführung und führt das Unternehmen mit einem großen Wissens- und Erfahrungsschatz.

Der Ausbau des Europa-Geschäftes und das Vorantreiben der Digitalisierung – zwei große und wichtige Themen der Strategie, welche das Unternehmen unter der Leitung von Frau Goldhahn fährt. Selbstverständlich beinhaltet die Unternehmensstrategie auch das Thema Nachhaltigkeit. Darunter verstanden wird zum Beispiel die Einsparung von Rohstoffen und der Einsatz von erneuerbaren Energien. Die Installation einer Photovoltaik-Anlage konnte 2022 erfolgreich abgeschlossen werden.



IDEAL's product portfolio ranges from welding machines for the joining of wires, stranded wire and band saws, to wire processing, the manufacture of sheet metal products, and the joining of strips. Our range extends from smaller series of production machines up to modular standard configurations, and to custom-designed and customer-orientated special solutions.

Our commitment to the further development of the product range and skilled, problem-oriented consulting has helped propel IDEAL to a leading position in the market, and made us a reliable partner for the industries we serve. We pride ourselves on providing increased efficiency, reliable machinery, and excellent service and support to our customers. IDEAL has knowledgeable representatives in more than 45 countries to ensure that we are always close and accessible to our customers.

Our sales and service office in the United States – IDEAL Welding Systems in Rockford, IL – has offered machinery, systems and spare parts in the US, Canada and Mexico since 1995.

In order to meet the demanding requirements and evolving challenges of our international industrial customers, we base ourselves on fair teamwork, with our customers, our suppliers and our employees.

IDEAL has 180 employees who make an invaluable to the success of our company through their commitment, their knowledge, and their close bond to the company. We ensure a solid, long-term base of technical knowledge and experience at our company through professional training practical experience and continuous education.

Your reliable partner

The head office in Lippstadt in Westphalia includes the administration and commercial departments, technical sections such as project management and the design offices. Our mechanical production facility is equipped with a modern machine park and delivers high-quality individual parts with top precision.

At our second location in Lippstadt, IDEAL machines are assemled in the production facilities, and the hydraulic, pneumatic and electrical systems are installed. Then a final test run takes place using customer-provided materials, optimally preparing the machinery for customer approval and for subsequent training.

IDEAL delivers

- Customized solutions - planning of machines in collaboration with the customer
- Execution/testing of applications for specific types of joining in a test setting
- Support in the planning of a new factory or production
- Design of all mechanical and supply-related machine parts
- Design of the controller, sequencing programs and communication interfaces
- Production of the mechanical machine parts
- Installation and initial commissioning of all machine parts
- Testing of the machine and determination of the welding parameters
- Disassembly, transport and installation at the plant of the customer
- Initial commissioning and, where necessary, linking into a line in the plant of the customer
- After Sales Service and the delivery of spare parts

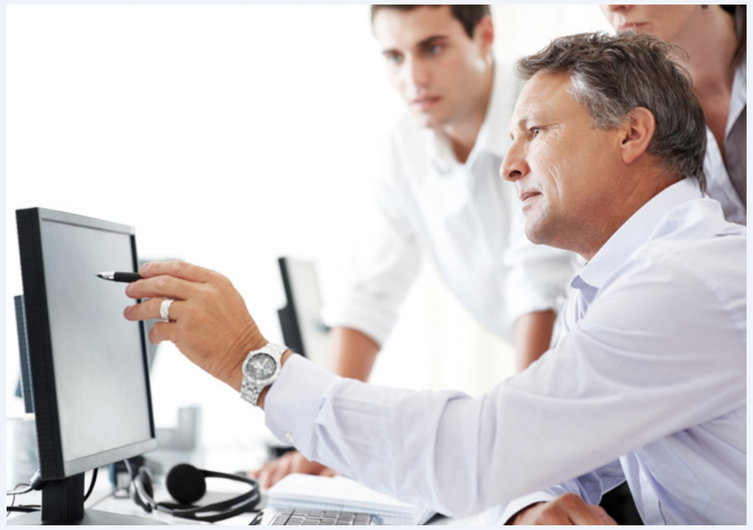
Our experienced service team offers professional advice and support, either on site or by telemaintenance.

- Spare parts
- Repairs
- Maintenance/servicing
- Remote maintenance
- Upgrades
- Modifications
- Training

Our highly qualified project managers support you as the relevant contact persons so that the individual tasks can be discussed intensively and solved together with you.

Foresighted project planning leads to developments and CE-certified designs that are matched to the subsequent work processes so as to reduce the life cycle costs.

We gained our know-how in the construction of special machinery in many complex projects.



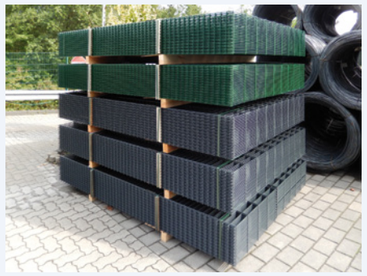
Mesh Welding Machines and Production Lines

The IDEAL Mesh Welding Machines for industrial wire goods are well known in the industry. Leading manufacturers of wire products are using IDEAL machines for the flexible and economical manufacturing of wire mesh products.

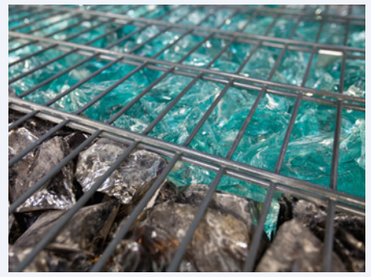
Our automatic production lines can be used for producing a finished product in a complete run, including: stamping, bending, wire shaping, cropping or other processes that enable our customers to achieve a finished product which is ready for sale at the end of the manufacturing line.

Typical applications:

- Single wire mesh panels
- 3D fences
- Double wire mesh – 2D
- 358 prison mesh
- Temporary fences
- Gabions or stone boxes
- Cable trays
- Wire baskets
- Dish washer baskets and white good products
- Supermarket applications
- Shelves
- Oven and grill rosts
- Animal cages
- Transport and logistic mesh
- Display articles and POS products

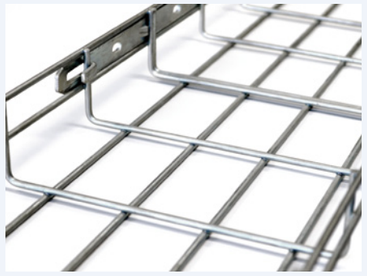


Fencing mesh

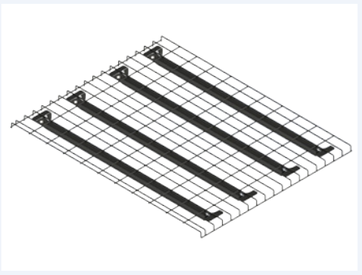


Gabion with double wire mesh

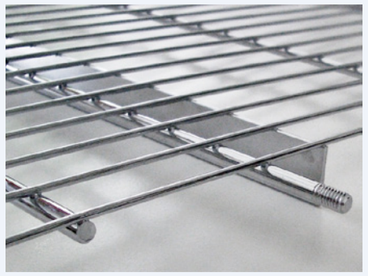
Stone wall or stone boxes



Cable trays



Deckmesh

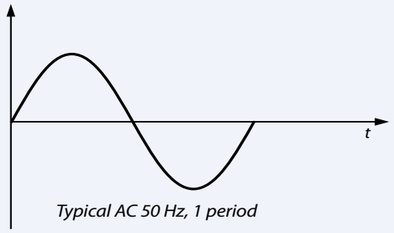


Wire shelf

Technology

Based on the welding target and our customer quality demand, we will be offering a different kind of welding technology to be used in our mesh welding machines. There is the possibility to offer AC current, rectified DC – or medium frequency technology. By concentration on the current or on the welded cross point only, we are producing straight and flat mesh.

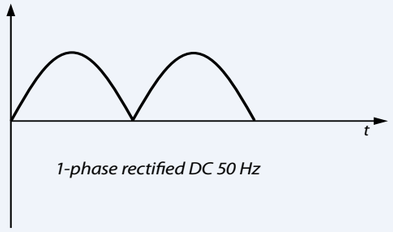
By using the software features for our welding parameters it is possible to work in cascading mode of separated welding sections to utilize high efficiency mesh welding equipment in places where the power supply and the electrical network is not that high.



Typical AC 50 Hz, 1 period

Alternating Current AC

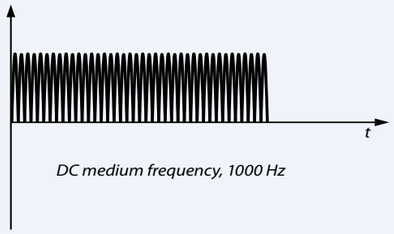
The Alternating Current measured in time related to current or voltage is counted in Hertz (Hz). In most of the countries we are talking about 50 Hz (in other countries 60 Hz). As a result one can see that 1 period takes 20 milliseconds. Due to reactive and shunt losses, the efficiency of such AC welding machines is about 65 %.



1-phase rectified DC 50 Hz

Direct Current (DC)

The DC current operates with a direct flow of the electrical power in only one direction by a special design of the welding portal. The efficiency degree of a DC Mesh Welding Machine is about 75 to 85 %. A good advantage of DC welding is less heat in the cross section of welded mesh. Less welding time results in less deformation to the final product.



DC medium frequency, 1000 Hz

Medium Frequency (1000 Hz DC technology)

In the IDEAL Medium Frequency Mesh Welding Machines the welding transformer will be driven at 1000 Hz which is 20 times faster than an AC system with 50 Hz. Due to the high frequency the welding time can be fine-tuned much more precisely. The efficiency degree of a Medium Frequency Machine is between 95 and 98 %. Less heat introduced into the mesh gives a very flat and straight product. Shorter welding time reduces wear and tear and increases the lifetime of the electrodes.

Modular design

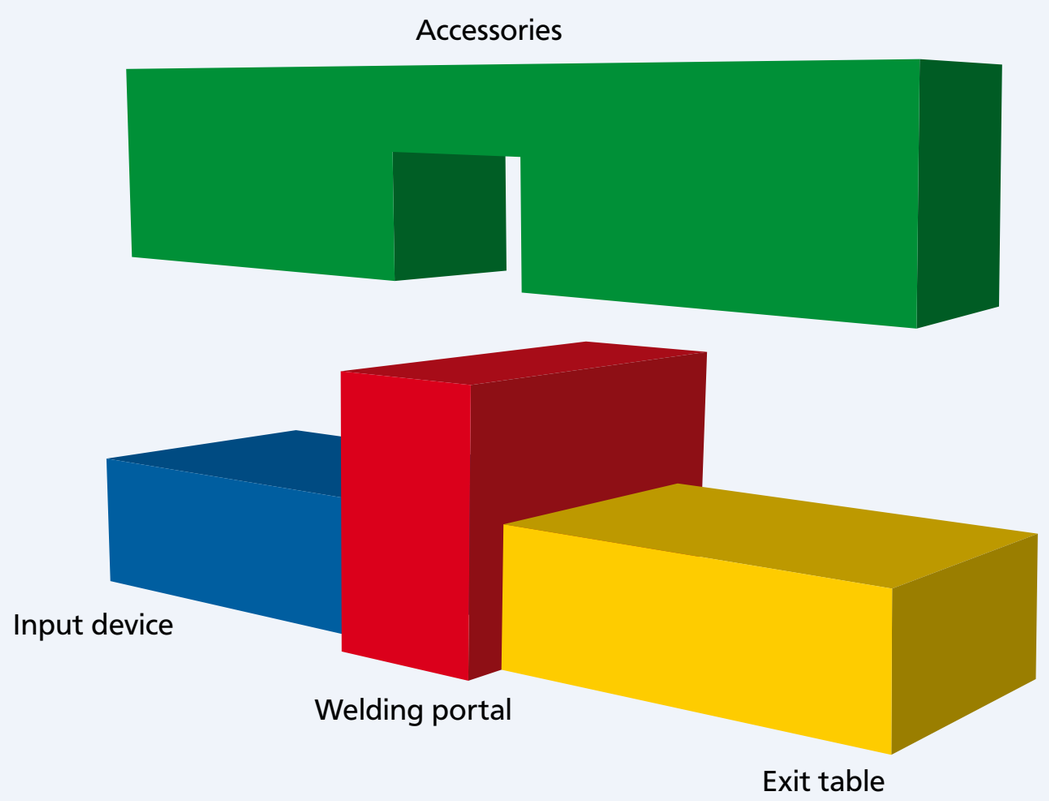
A long experience in welding resistance technology and mesh production, a close cooperation with our customers, the cooperation with colleges/universities and research institutes as well as the feeling for technical trends are the roots in mastering the challenges of the future in a dynamic and innovative manner.

The basis of our development activities is a steady improvement of our well established standard machines into tailored, individual solutions.

We are driving forward customized solutions based on the demands of our customers. We offer our customers various modular designed series of welding machines, which are producing mesh panels of different types made from straightened and cut-to-length wires.

Here we pay special attention to extra versatility and flexibility of the machines. Easy and quick set-up for product changes make our machines suitable for mass production as well as for medium and smaller quantities .

The production requirements of our customers define the required modules, the expansion stage and the type of automation. Due to the our modular machine design, extension or automation can also be added later.



IDEAL Mesh Welding Machines

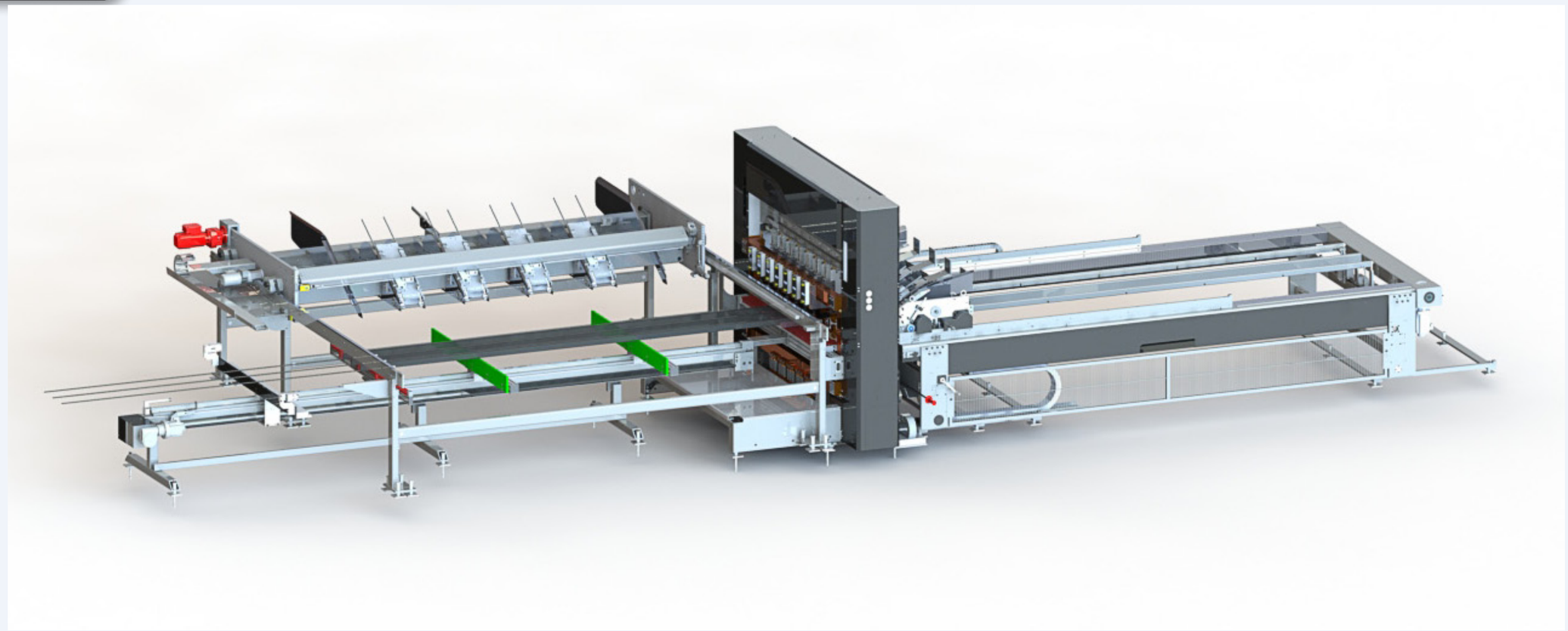
The production requirements of our customers define the specification and required modules.

IDEAL is well known for its in-house production and commits to manufacturing in Lippstadt. As a well-established German, medium-sized company we are producing and installing machines or components, just as expected by our worldwide customers.

Made in Germany
Made in Lippstadt
Made by IDEAL

IDEAL Know-How

+ Design
+ Planning
+ Production
= **Everything out of one hand!**



Input device with automatic line wire loading | **Welding portal** | **Exit table**

Feeding of wires, flat steel bars and frames

We offer different versions for feeding and loading – from manual insertion to automated loading with magazines for different wire diameters and lengths, integration of straightening and cutting machines and pre-configured changeable guiding rails.

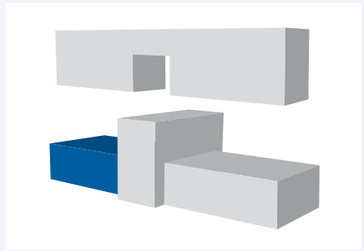
In order to maximize the highest possible utilisation of the machine, feeding of new wires is automatically done during the welding process. The magazines will also be loaded while the machine is in operation.

To minimize the downtime, the magazines, as well as the guides are designed for a quick changeover within the welding portal.

The machine can be fed on a single or double track magazine for the minimization of cycle times.

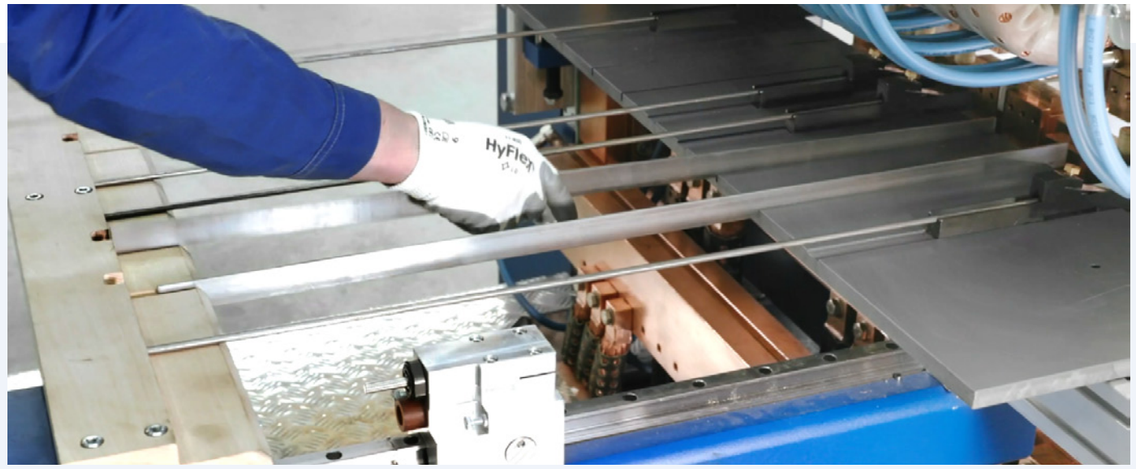
Typical applications clarify the various possibilities for loading. Depending on customer's requirements the input device can be made in a modular design.

- Manual or automatic feeding of wires, frames, profiles or flat bars
- Quick change-over between different applications

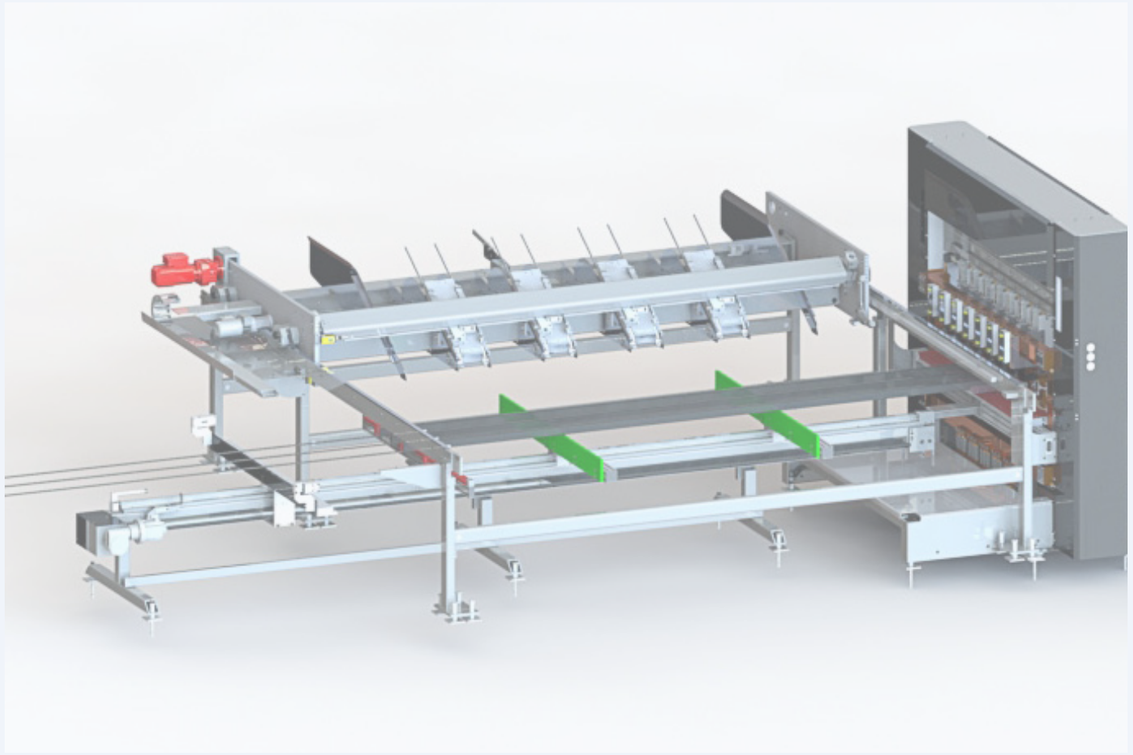


Technical data

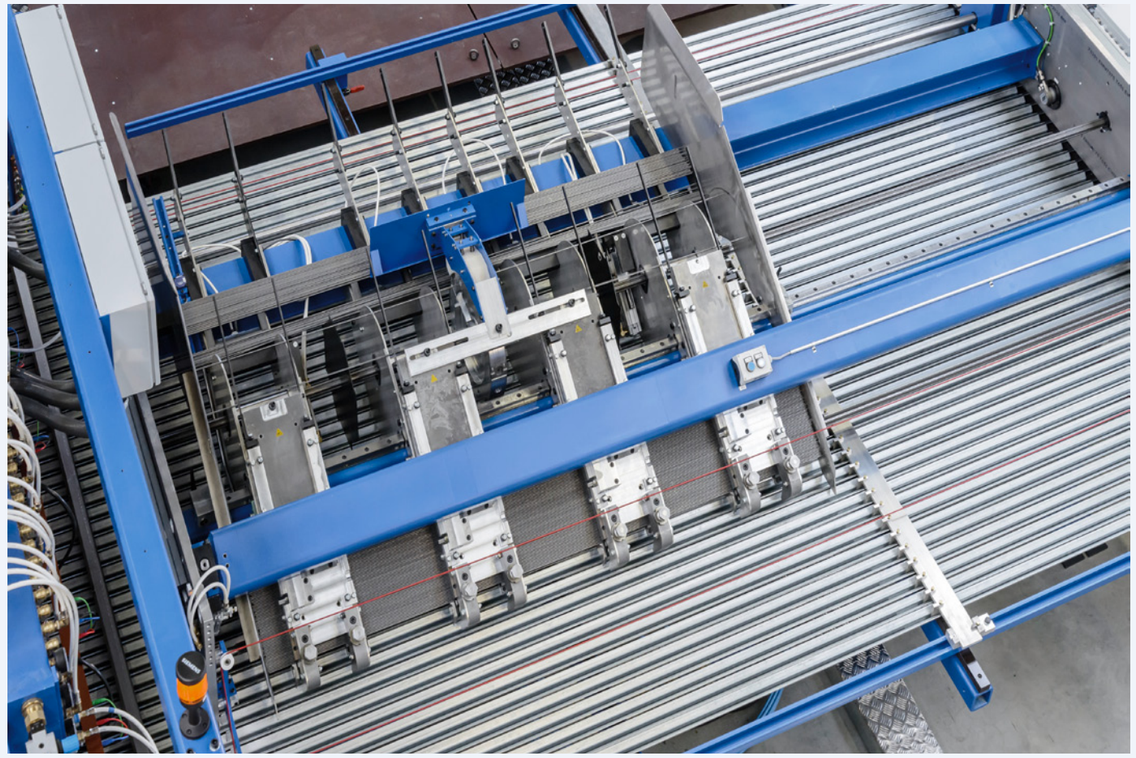
- Manual and automatic loading
- Line wires up to 6 000 mm
- Cross wires up to 3 000 mm
- Wire diameter up to 8,0 mm



Frame magazine



Input device with automatic line wire loading



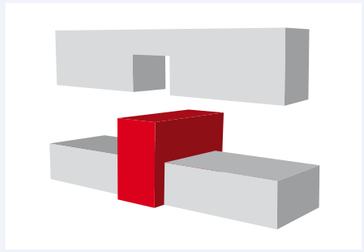
Line wire loading magazine

The heart of our mesh welding machine is the welding portal. The cylinders ensure an optimized fixing of the wires – for maximizing the surface quality while simultaneously minimizing welding spatter.

The lateral edges of the mesh can be welded flush or can be trimmed during welding operation – T-welds are also possible.

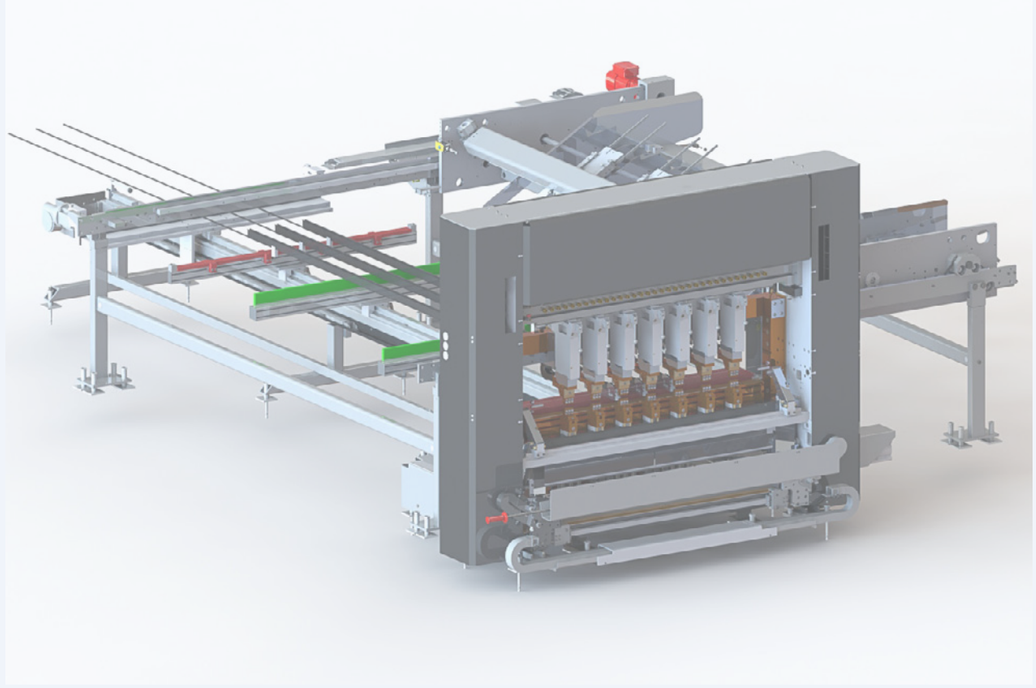
The welding cylinders are designed for a quick changeover. The minimized changeover time ensures high efficiency, versatility and flexibility of IDEAL machines.

Programming of welding parameters is made by means of a PC featuring operator guided and friendly software easy to use. Storing, further processing, evaluation of data and a network integration are provided. Remote maintenance and diagnosis is also available.



Technical data

- Portal widths up to 3 000 mm – special dimensions on request
- Secondary alternating current, direct current or medium frequency
- Welding of meshes with upper and/or lower cross wires
- Single and multiple operation



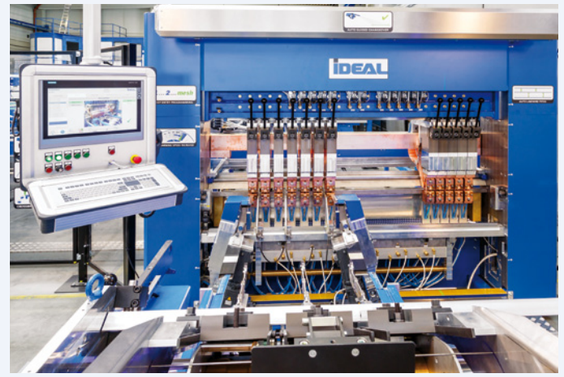
Welding portal with automatic setting of cylinders

The versions of the IDEAL welding portals are based on customer resolved solutions. The classical types differ within the applications and also in the portal widths.

Depending on customer's request, the welding portal will be equipped with corresponding cylinders, welding presses or transformers. From AC alternating current up to DC medium frequency, every technology is available.

The **series 100** exists since more than 10 years and is characterized by quick setting of welding cylinders.

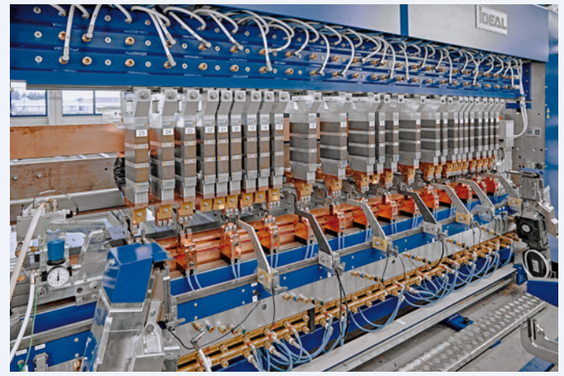
One operator adjusts the welding cylinder with only one manipulation. **All welding parameters** are set up centrally by software. Thus a product change can also be realized easily and process reliable by an inexperienced operator.



Our **GAM solutions** are equipped with **1000Hz, middle frequency** (MF) technology. The MF makes it possible to regulate the current each single millisecond.

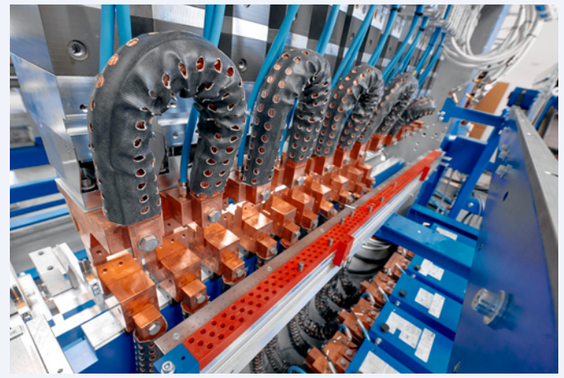
MF produces solid welds, a significantly better surface finish and reduces spatter formation. MF also returns an energy-utilisation coefficient of over 96%.

Very good welding results can be achieved in the case of galvanized steel, stainless steel and fine wire.



The classic among the welding portals is surely the alternating current version of our **series 800**. Using different modules, this is a perfect solution for every application.

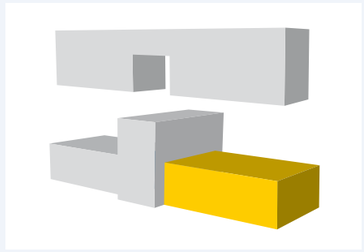
The picture shows the setting of welding cylinders in double tracking. It is important to have a machine which is easily accessible ensuring user-friendly maintenance of the machines.



Options for unloading of welded mesh

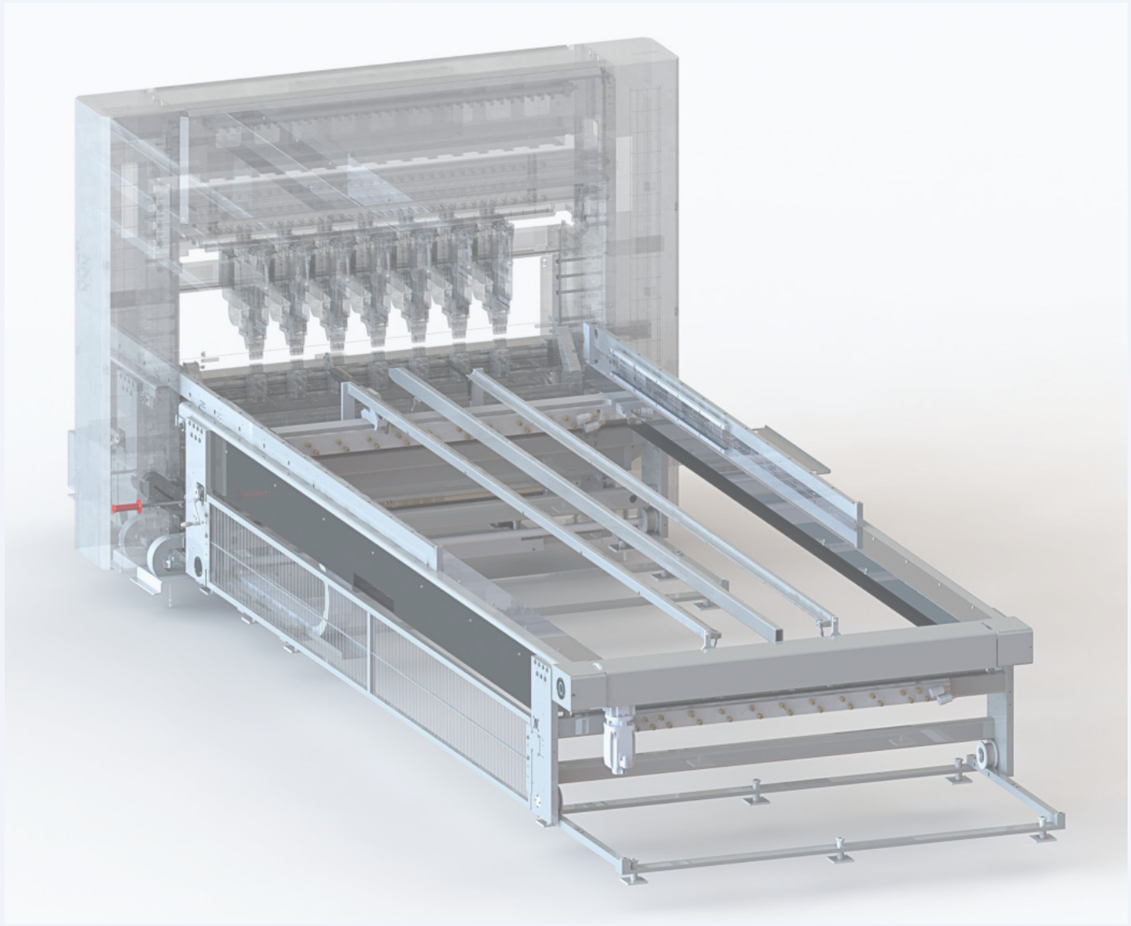
We offer the following: manual removal of products, putting down, stacking, turning, automated transport to subsequent processes and integration to a manufacturing line.

It is also possible to split a welded mesh into several individual products – thus an optimized cycle time can be achieved.



Technical data

- Length up to 3 500 mm – special dimensions on request
- Width up to 3 000 mm – special dimensions on request
- Exit of grippers
- Pivoting rails
- Single and multiple operation
- Stacking device without or with turning



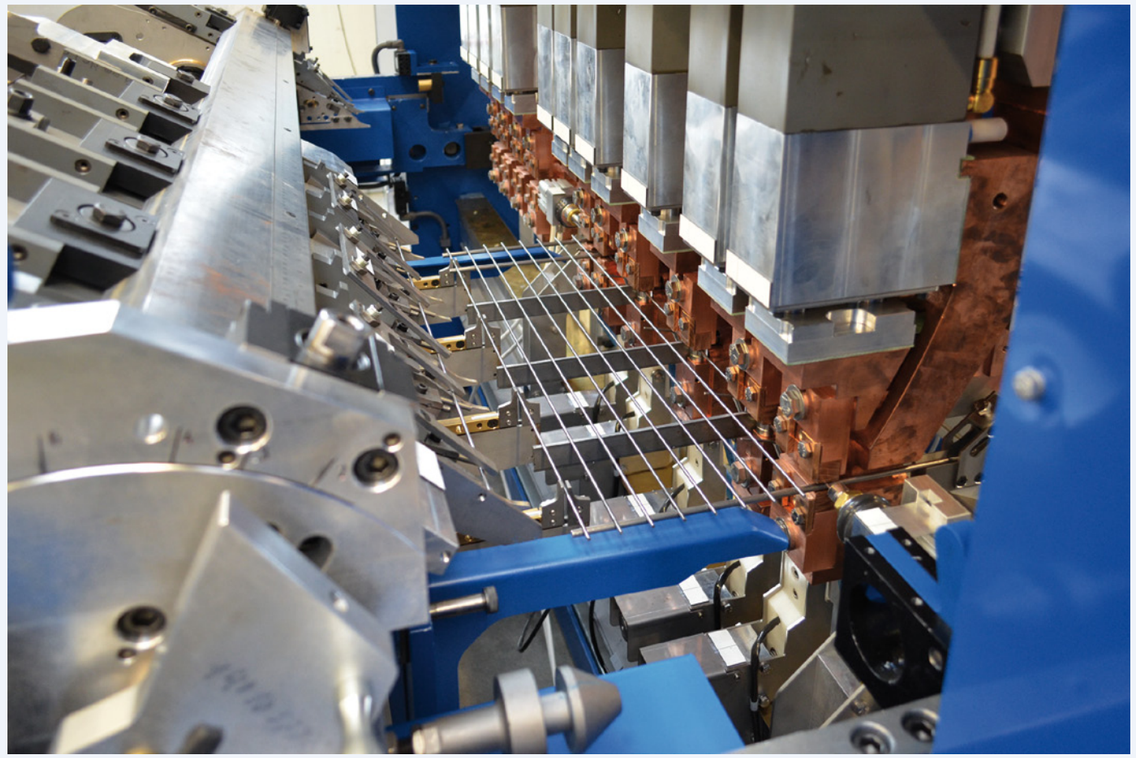
Welding portal with exit table

After welding the mesh panel, a further processing step can be made by unloading. Beside the standard unloading of a mesh, IDEAL further offers a modular system.

The "run-out" or the so-called "exit table" pulls the mesh out of the portal. It is possible to have an exit table in one, two or triple tracking, which increases the production. Additional modules from our range of accessories will automatize the mesh welding machine even years after the purchase.

Pivoting rails with double operation

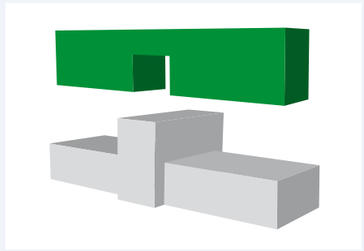
Exit table in double tracking

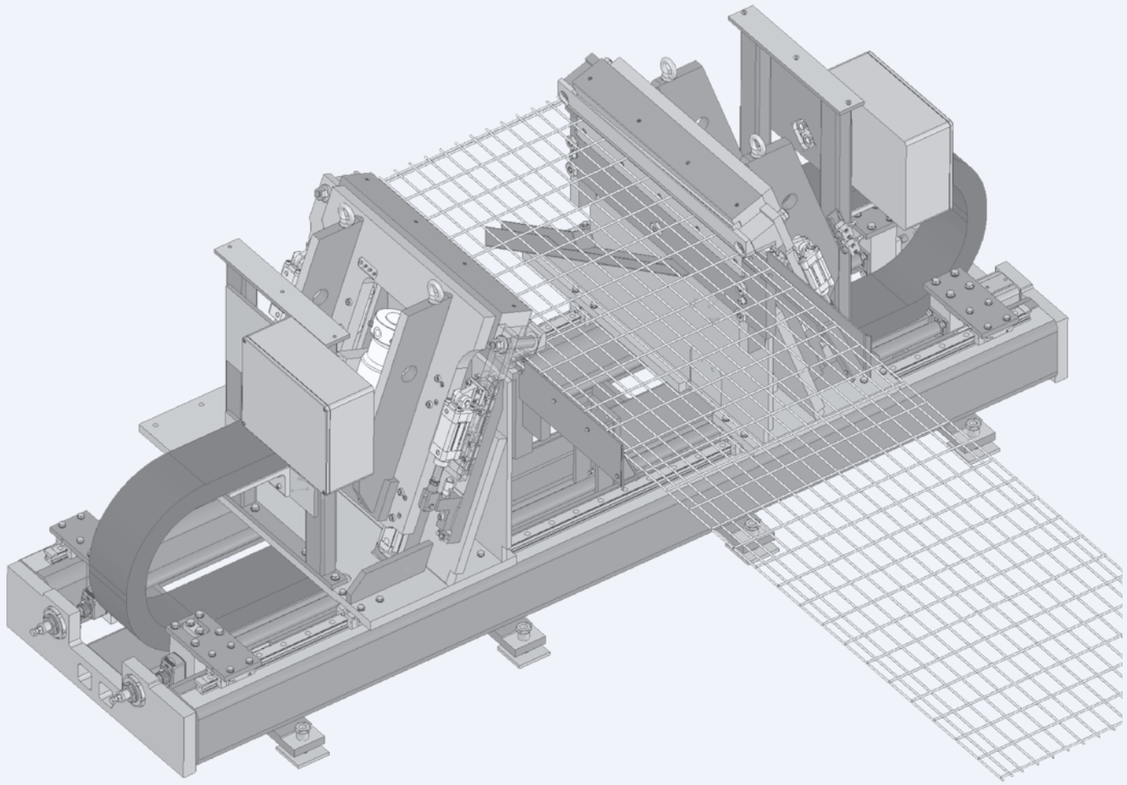


Cross wire magazine with flat bar mesh

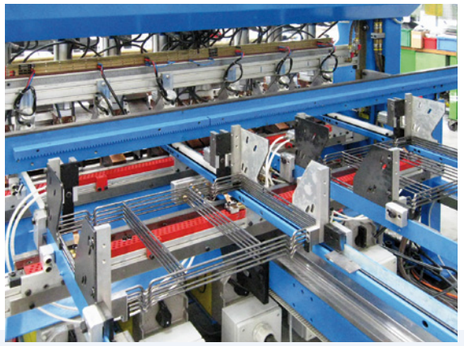
The requirements of our customers and the market – in conjunction with product development and innovations – form the basis for the accessories to our mesh welding machines.

Owing to IDEAL's modular design, machines can be adapted/ retrofitted with accessories at a later stage.





Cropping unit

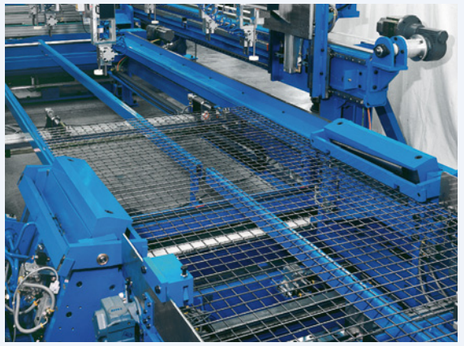


Double Frame magazine

Stacking device and mesh handling

Bending press

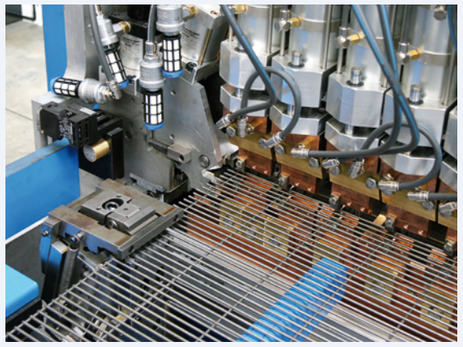
Input device for long wire



Side trimming for mass production

Flat wire feeding

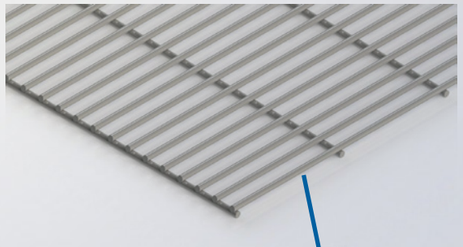
Laser-supported setting device



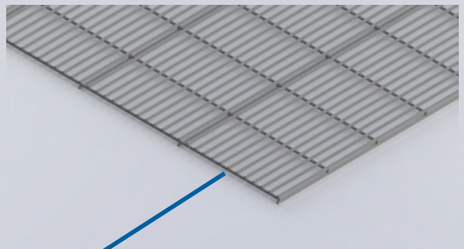
Nibbler

Accessories

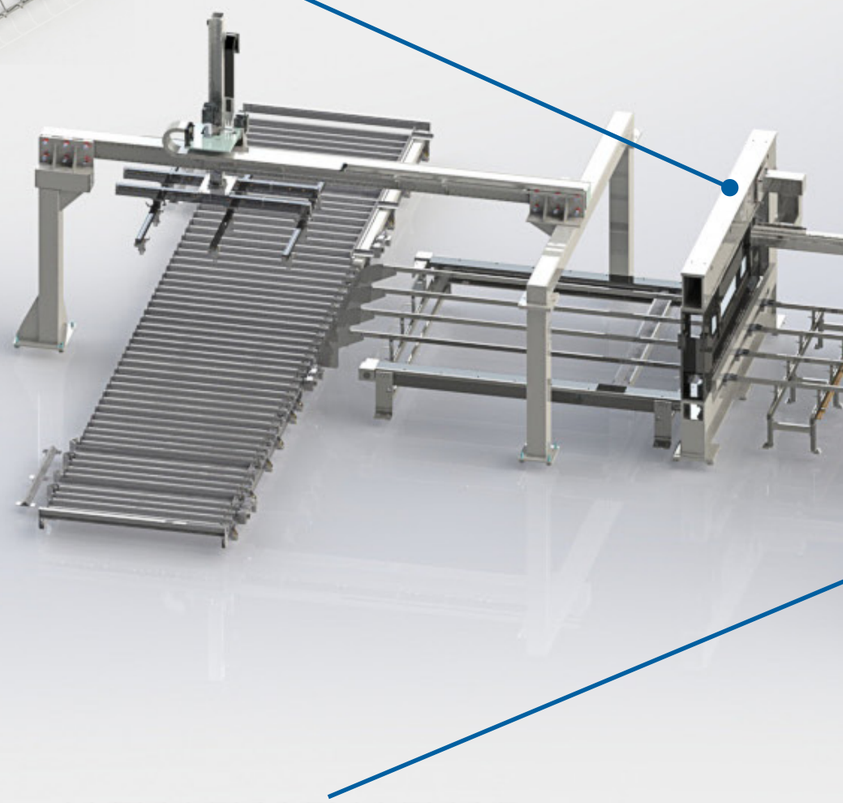
3D-Zaun mit V-Biegung
3000 x 3500 mm

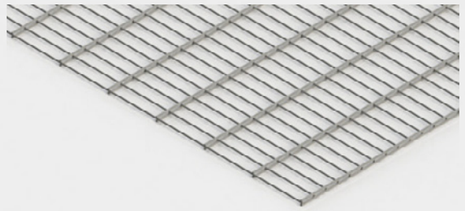


3-5-8 Sicherheitszaun
3000 x 3500 mm



3-5-8 Sicherheitszaun
mit Unterdraht
3000 x 3500 mm





2D-Zaun - Doppelstabmatte
3000 x 3500 mm

Einzelstabmatte
3000 x 3500 mm

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Concept & layout: TANDEM Werbeagentur GbR Lippstadt · www.tandem-lippstadt.de
GA mesh welder 04/2018 . Subject to alteration.