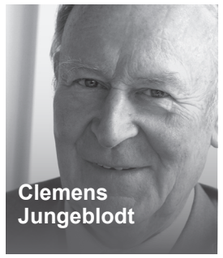
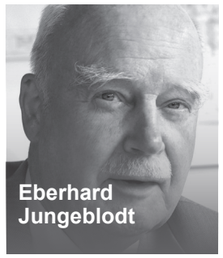
FLASH WELDING MACHINES

Clemens Jungeblodt sen.


Clemens Jungeblodt


Eberhard Jungeblodt

IDEAL – The Pioneering Spirit of a Medium-Sized Company

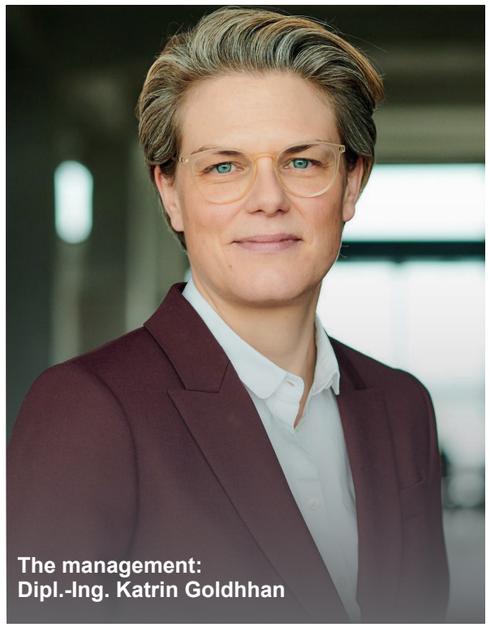
In december 1923 the family business was founded - at that time under the name Elektro Apparate Bau GmbH (EAB). After a short time the company name changed and already the first electrical apparatuses were called IDEAL.

The name IDEAL is composed of „Jungeblodt Deutschland Elektro Apparatebau Lippstadt“, but one day the J became the I. In 1970, EAB was officially renamed IDEAL-Werk C.+E. Jungeblodt GmbH+Co. KG. Since then, the name IDEAL has stood for constant innovation and quality in mechanical and plant engineering. The company‘s core competence is resistance welding. In 2020, Dorothee Jungeblodt and Max Clemens Jungeblodt step down as managing directors and lead the company as third-generation shareholders.

In the same year, Dipl.-Ing. Katrin Goldhahn takes over the management and leads the company with a wealth of knowledge and experience.

The expansion of the European business and the advancement of digitalization - two major and important topics of the strategy, which drives the company under the leadership of Mrs. Goldhahn. Of course, the corporate strategy also includes the topic of sustainability. This means, for example, saving raw materials and using renewable energies. The installation of a photovoltaic system will be successfully completed in 2022.

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


The management:
Dipl.-Ing. Katrin Goldhhan

With welding systems to the Top 100 innovator: With this announcement, the start of the IDEAL anniversary year has been more than successful. After successful participation in the Top 100 Innovation Competition, IDEAL-Werk receives the Top 100 seal.The third-generation family-owned company convinces with its innovative qualities and proves to be one of the hundred most innovative medium-sized companies from Germany.

The competition is based on a scientific selection process. On behalf of compmedia, the organizer of the comparison, innovation expert Prof. Dr. Nikolaus Franke from the Vienna University of Economics and Business Administration and his team examined IDEAL on the basis of more than 100 criteria from five categories:

- Innovation-promoting top management
- Innovation climate
- Innovative processes and organization
- External orientation/open innovation
- Innovation success

The Pioneering Spirit of a Medium-Sized Company IDEAL’s product portfolio ranges from welding machines for the joining of wires, wire strands and band saws for wood and metal to wire processing, the manufacture of sheet metal products, and the joining of metal strips.

Our machines range from smaller series production machines up to modular standard configurations and all the way up to custom-designed and customer-oriented special solutions. Our commitment to consistent further development of the product range, as well as competent, problem-oriented consulting have helped us to attain a leading position in the market and made us a reliable partner for the industry. Our knowledgeable representatives in more than 45 countries ensure that we are always close to our customers.

Since 1995 our own sales and service offices in the USA have been directly offering machines and spare parts to our customers in the USA and Canada.In order to meet the requirements of our demanding and international industrial clientele we build upon fair teamwork with customers, suppliers and our employees. Our 180 employees contribute towards the success of IDEAL by way of their commitment, knowledge and close ties to our company. Thanks to our own apprenticeship program and continuous training, we are able to sustain in-depth knowledge and experience.

Your reliable service

We help you quickly and easily with the selection and ordering of spare parts. Provision of spare and wear parts lists for stocking.

Inhouse repairs

When we receive your machine, it will be checked by our IDEAL service technicians and a cost estimate will be prepared:

After approval of the cost estimate, the repair will be carried out.

Maintenance and inspections

For this we can offer you the following:

Maintenance contracts (Our service technicians maintain your machines at your plant)

Installation services (Should a repair still be necessary at your site, we provide a fast and reliable repair service)

Digital remote maintenance

IDEAL can intervene in a supportive manner with remote access in the event of a fault. For this purpose, we recommend digital remote maintenance to our customers.

The use of a router with PLC interface and a CLOUD service is essential so that the IDEAL service technician can connect to the machine.

Assisted Reality

audiovisual service from IDEAL

Safe, fast, inexpensive and very close – IDEAL's audio visual service makes machine maintenance child's play and repair a simple exercise.

Downtime is minimised with the Assisted Reality connection. Our customers are supported via mobile phone, tablet or virtual data glasses by our service engineers in the best possible way.

With live audiovisual transmission, our specialists receive detailed information allowing them to swiftly identify problems and to quickly correct them with the aid of instructions and projection.

Upgrades - Retrofit

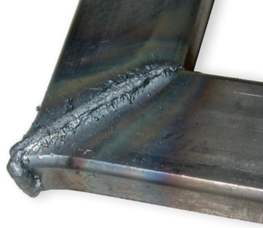
If your IDEAL machine is getting on in years - we can offer you „upgrades" for it:

- Control conversion (S7 or also Schneider > Siemens)
- Router with interface (Siemens requirement)
- New stop system (BAS 300 series)
- Thyristor shutdown (series)
- NC underwire feeding
  (retrofittable to all underwire machines of the type GAM 530)
- Welding control conversion

Our machine talks IDEAL 4.0

Via the internationally known communication medium OPC-UA, we are able to provide all production-relevant and all energy-relevant data of the production infrastructure.

As an option, a „monitoring function" is possible via WLAN.



AS Flash welding machines

In order to achieve a maximum tensile strength and the fulfilment of standard requirements that this entails, type AS IDEAL flash welding machines are the perfect choice.

- Top weld quality with metallurgically pure joints
- Short welding time
- Low demands on the preparation of the workpiece ends
- High level of reproducibility of the welding parameters
- High dimensional accuracy

The technical details of the AS welding machines at a glance

• Upsetting force max.	15 - 500 kN
• Transformer	30 - 1200 kVA
• Weight	1,2 - 22 t
• Welding cross-sections	
unalloyed steel	15 - 10.000 mm²
alloyed steel, BSt	15 - 8.000 mm²
stainless steel	15 - 4.000 mm²
aluminium	15 - 2.500 mm²
• Dimensions of basic machine	
Width	150 - 400 cm
Height	170 - 280 cm
Depth	120 - 250 cm

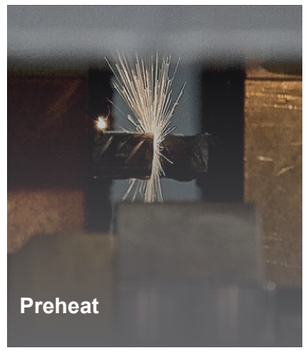
Typical applications

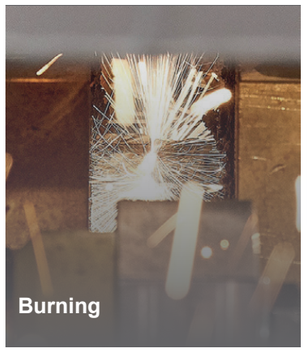
- concrete steel connections
- drill extensions
- wire items
- wire frames
- wire rings
- wire cables
- moulded parts from round and profile wire
- household cutlery
- cable work
- medicinal instruments
- steel cord connections
- PortaBand saw bands
- band knife
- coil-to-coil joints
- rims

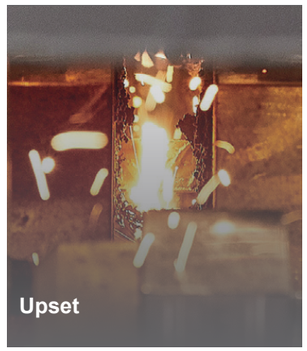
Flash welding - the technology

The flash welding process is broken down into pre-heating, flashing and upsetting. A high current generates concentrated heat at the surfaces to be welded. The metal melts at the contact point and splashes. The flashing of the surface material that starts as of a specific temperature results in a smooth and clean joint. The evaporating metal creates a protective atmosphere, so welding consumables like shielding gas are no longer required. The melting loss consists of molten and oxidised material.

Then the upsetting begins, and the two surfaces are pressed together with great force to ensure a flawless joint. The upsetting causes a thin, brittle welding burr. The burr can be easily removed by grinding, milling or similar procedures. Deburring is particularly efficient in the welding machine. It's done either by a planing deburrer or a shear deburring device. The deburring is done when the workpiece is still red-hot. De- pending on the length of the weld seam, it takes no more than a few seconds.


Preheat


Burning


Upset

Type	Max. upsetting force	(Pr) Transformer	(WCS) unalloyed steel	(WCS) alloyed steel (BST)	(WCS) stainless steel	(WCS) aluminium	Weight of basic machine (approx.)
	kN	kVA	mm²	mm²	mm²	mm²	kg
AS0 015	15	70	50 - 400	up to 250	up to 120	15 - 80	1200
AS0 025	25	70	150 - 800	up to 400	up to 250	40 - 120	1700
AS0 040	40	120	200 - 1300	up to 650	up to 330	50 - 200	2500
AS0 050	50	120 / (200)	250 - 1600	up to 800	up to 400	50 - 250	3000
AS0 100	100	200 / (400)	400 - 2500	up to 1600	up to 800	100 - 500	5000
AS0 160	160	500	600 - 4000	up to 2600	up to 1300	200 - 800	7000
AS0 220	220	800	800 - 5000	up to 3500	up to 1800	300 - 1100	11000
AS0 320	320	800	1000 - 6000	up to 5000	up to 2600	400 - 1600	14000
AS0 500	500	1200	1500 - 10000	up to 8000	up to 4000	500 - 2500	25000

(Pr) = rated power (WCS) = welding cross section

The perfect solution for every requirement

IDEAL builds and develops not only welding machines – IDEAL offers efficient and cost effective welding solutions for nearly every requirement.

Whether small devices for perfect individual welds or fully automated welding systems for high volumes with exactly reproducible welding parameters, IDEAL is your partner for innovative and sustainable welding technology "Made in Germany".

AS0 015 mobil

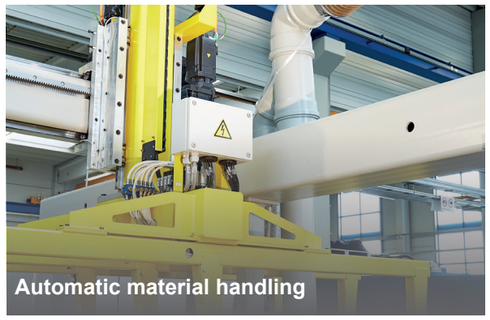
AS0 015 D front

STS 020

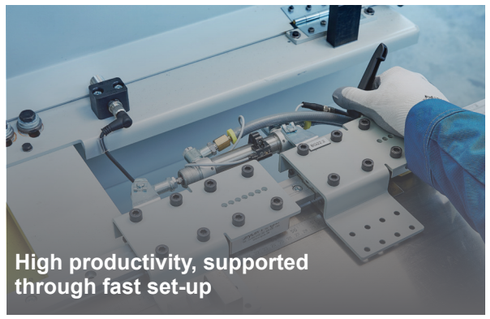
Wire and rings

Speed, dimensional accuracy, reproducibility – these are the demands and requirements our customers want from our welding machines. Whether structural steel joints, tool extensions, chain links, lugs, rings – with our AS15 or AS25, you will be on the safe side when welding smaller cross-sections.

An extensive range of accessories meets virtually all customer wishes – from a manual solution for small volumes up to fully automated systems.


Automatic material handling

DD0 104 Double pressure welding machine with handling and peel deburring


High productivity, supported through fast set-up

PC with parameter setting and Logging of each individual weld

Fully automatic AS15 for Steel-stainless steel joints

Profiles and flat material

Profile-T or angle connections, coil joints, etc., pose great chal- lenges to individual and easily installable material feeds in order to provide a consistent and reproducible welding result.

Larger welding cross-sections make the **AS40** to **AS220** ideal for such tasks.

Automatic Deburring device

AS160 for welding of wagon joints

AS220 for welding of ship profiles

Rims, rings, wreaths

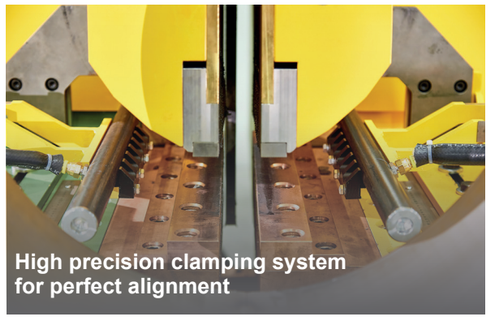
Rims and rings demand a great deal from welding. Important are, among other things: very flexible material clamping devices that are also able to build up a targeted and high contact pressure – with very small tolerances.

Demanding and sophisticated industries, such as automotive or medical engineering, are therefore working with welding machines by IDEAL. The AS220 to AS500 are the first choice here.

Bicycle rim

Car rim seam

Alligator quick clamping device for ergonomic loading


High precision clamping system for perfect alignment

Automatic ejection system - faster and safer

AS220 AF für Auto- LKW- und Traktorfelgen

Special solutions DD & WES

Due to an additional upsetting shock, DD double pressure welding systems create connections with extremely high tensile strength during the welding process, because the heataffected material is almost completely pressed out of the welding zone. The result is a significantly finer grain structure of the material and an extremely high tensile and bending strength.

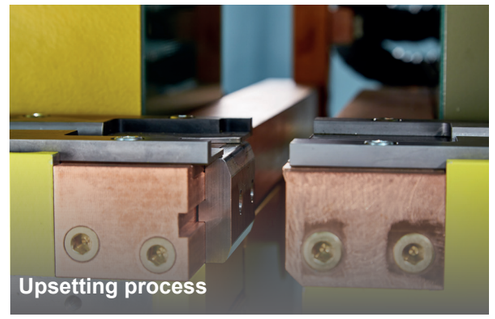
The **WES** resistance upsetting machines produce bolster upsettings e.g. on professional knife blades. The material is heated by a high current and then upset.

Material grinding DD welding

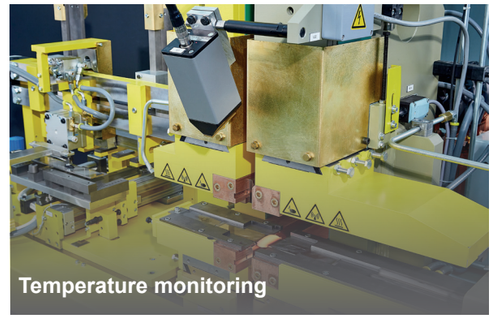
Micrograph butt weld

Material grinding Initial material

WES 103 Resistance upsetting machine


Upsetting process

Butt welding on top and Double pressure welding below


Temperature monitoring

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