

ebu STA automatic punching press



...einfach besser umformen!

ebu STA automatic punching press – the future is in sight

ebu – more than 60 years of experience in metal forming technology

For over sixty years we have been one of the leading providers of metal forming equipment and machinery. Many prestigious organisations in the metalworking and processing industry choose our products.

And not without good reason! The success of our STA and STA-G ranges is a sign of the quality of our machinery.

Competence developed over decades

You see proof of our competence on a daily basis. From the initial consultancy through to after sales service, a highly competent and knowledgeable team is there to support you.

The in-depth analysis of your needs and possible future developments is an integral part of our approach to projects. We develop sustainable concepts and consider in detail your future plans and objectives when we design your ebu STA.

The flexibility of our modular design concept comes in useful here.

Our philosophy is not to sell you just a machine, but a comprehensive solution for your long-term production needs.

We see ourselves as a service provider for our customers, and underline this by investing in well-trained and highly motivated staff and modern production systems, and we are confident that we will have the right solution for you and your production needs.

We are extremely flexible due to our efficient production process and take optimal control of all processes: development, design and manufacture.

ebu stands for trend-setting innovation!

In order to fulfil our duties as a machine manufacturer as well as possible, we offer innovative solutions to our customers.

We are proud of our development milestones:

- first German manufacturer to patent integrated servo drive technology in the press
- first German company to successfully integrate planetary gears in the press
- integration of our competencies into sheet metal forming industry with complete high performance strip-feeding systems, new feeding technology or the strip feeding and control system fully integrated into the automatic machine control system



STA-G 800/4000 P2R
Transfer moulding press
for automotive suppliers

ebu Highlights

Conception, consultation and engineering

- highly motivated and well-trained employees
- competent planning and consultation
- detailed design
- experienced engineering team
- simultaneous engineering
- division of 3D construction and design
- estimation and explanation
- user-oriented project design
- FEM (finite element method) and detailed requirements analysis
- individual design concept to optimize production process

Project management

- efficient project management
- user-oriented project management
- goal and solution oriented work methods
- cost and scheduling stay under control

Realization

- high number of internally produced parts
- experienced design and construction team
- service from the start, for as long as you use your machine
- we are your reliable partner from the design to the project management and the commissioning to the production start

One of our consultants will be with you every step of the way, from initial contact to delivery and beyond

From engineering up to the manufacture



our team is always prepared to cope with even hardest tasks



ebu Burkhardt ...
highly motivated and efficient



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ebu STA automatic punching press – a proven concept for wider use

Basic concept of ebu STA automatic punching presses

Every machine in this range has been conceived as a universal punching and forming press.

The modular concept – an ebu STA punching press gets better the more it is used:

It can be adapted to your needs and fitted to fully automatic equipment. The modular design concept allows flexible use of your machine from the start. Future development of your product line and the necessary adaptation of your production machinery are therefore easy to achieve!

ebu STA punching presses are available in mono con-rod or duo con-rod versions. We offer different drive variants to go with it: direct drive, back gear drive by means of planetary gears or servo drive. A significant part of the explanation – for the most user-friendly performance, we use tried and tested components from well-respected manufacturers. For you, that means maximum reliability with your daily work.

ebu STA punching presses are an excellent solution and have won the metalworking innovation prize, the „MM Award“. They have been developed with practical experience in mind to be of a high technical quality, long-lasting and reliable in heavy production.

The ebu strip feeding line is the ideal complement for the ebu punching press.



Complete ebu system on duty
of an automotive supplier



ebu STA punching press:

Functions

Punching, bending, forming, dividing, moulding, copying and pressing in combination, with or without transfer

Areas of use

Automotive and automotive supply industry, metal fittings technology, hard pressing, white goods, perforated plates, electrical industry, pre-punch presses for high profile manufacturers, watch industry, furniture industry, food industry, punching machine sub-contractors and suppliers, renewable energy sources such as wind power, research and development

Features

Design:

- monobloc or divided version
- drive variants: direct drive, back gear drive by means of planetary gears or servo drive
- control

Basic characteristics:

- eccentric drive with excellent energy balance
- very sturdy press body
- minimal bending
- lowest frame stretch
- tried and tested wave concept
- rotating and oscillating mass balance
- hydraulic coupling-brake combination
- ram guide, pre-stressed without play and mounted on an antifriction bearing
- automatic ram weight balance

Most different equipment:

- automated shift axle, ex: stroke and ram setting
- speed control
- central pressure oil lubrication
- hydraulic overload protection working and combined with
- pressing force measurement and evaluation
- unit carrier
- automatic safety doors
- opening for component handling and disposal of scrap

Options

- eccentric shaft mounted on antifriction bearing
- vibration damping
- tool clamping systems
- tool change systems
- part transfer mechanism
- manipulators
- noise protection

Advantages

- modular design concept
- short installation and maintenance times
- customisation
- operating efficiency
- durability of machines
- extended tool service life
- lower noise emissions



ebu servo drive



In line of duty in a furniture
maker's facilities –
automatic ebu punching press
with robot and depiling
system

ebu STA automatic punching presses...
a safe investment for the future



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ebu STA automatic punching press – STA Monobloc



Model ebu STA Monobloc

Power

- up to 10,000 kN

Application

- universal

Features

- monobloc - welded steel construction
- stress relief annealed
- extremely high rigidity
- low frame stretching behaviour

Product description

ebu STA monobloc automated punching presses are made from a welded steel construction. The build, which is FEM-optimised and analysed and tested in regard to deformation gives it a high level of rigidity. The body of the press, as well as the drive, power train with con-rods and storage are all modular.

The monobloc performance accounts for the limitations on the size. However, with our facilities we are able to build machines of this type with up to 10,000 kN tonnage and a table size of up to 3,000 mm in length. For this, the press body must be separated.



ebu STA 400/2500 P2R with ebu servo drive and complete system for the processing of strips with thicknesses up to 8 mm and widths up to 800 mm on duty in an automotive and sanitary supplier's plant



Ready for being packed up for shipment!

**STA 400/2500 P2R
STA Monobloc with table of 2,500 mm length and an overall weight of 84 tons**



STA Monobloc – press body with premium award winning shaft bearing concept



**STA 320/2500 P2R
in action in the works of an automotive and electrical industry supplier**



STA 160/1300 P2R



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ebu STA automatic punching press – STA-G split



Model ebu STA-G

Power

- up to 16,000 kN

Application

- for more demanding and difficult cutting strokes

Features

- body primarily in cast design
- extremely high rigidity
- hydraulically pre-stressed and combined with tie rods
- low frame stretching behaviour
- minimal table and ram deflection
- optimal use of materials
- extended tool service life
- lower noise emissions

Product description

This machine is highly resistant to deflection due to its use of materials and cast design and the best damping characteristics are primarily for more demanding and difficult jobs in press punching and metal forming technology. However with our facilities we are able to build machines of this type with up to 16,000 kN tonnage and a table size of up to 6,000 mm in length



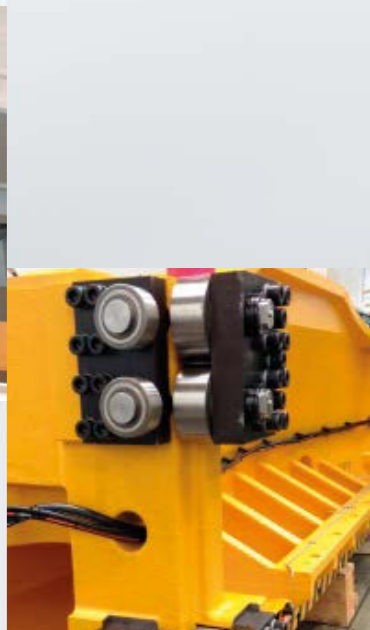
Split type ebu
STA-G 500/2500 P2R

Vibration-damped cast design for
fast speed hard pressing operation

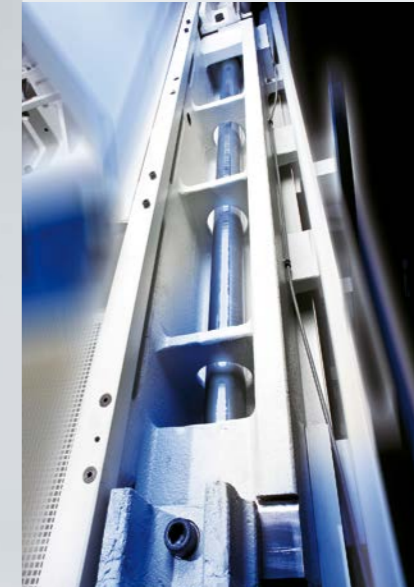


Split type ebu
STA-G 320/3500 P2R

Installation of the head section
– system for high performance
operation in the plant of a manu-
facturer of metal fittings



Ram guide

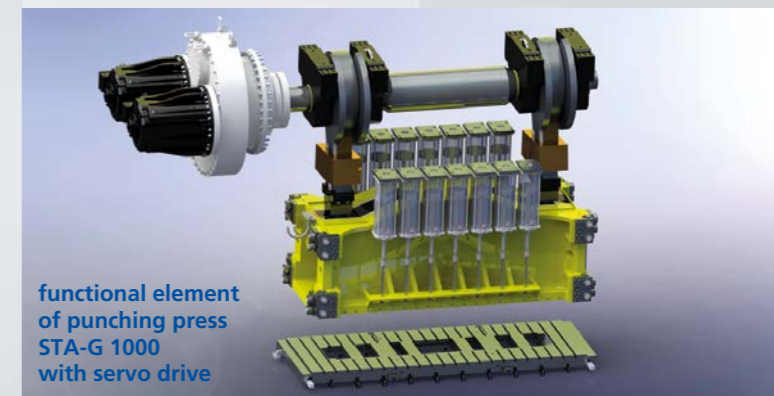


Amplly dimensioned,
hydraulically pre-tensioned tie rod



ebu STA-G 800/4000 P2R
at an automotive supplier

The on-site assembly of a bulk
press on account of complica-
ted installation conditions helps
cut down on the delivery times
to be met by an automotive
supplier



functional element
of punching press
STA-G 1000
with servo drive



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ebu STA automatic punching press – construction highlights

Control technology – everything's under control

We pride ourselves on our integrated control technology, and it's a reason for our success, in addition to safe, simple operation that's adapted to work processes. Modern process visualisation, logical construction and intuitive user prompting allow safe and effective operation.

Have all your processes in view and under control

The ebu operator prompting facility enables the fast setting up of tools

Highlights Control technology

Performance

- PC-based PLC control

Operation

- modern process visualisation with the touch screen
- logical construction with user prompting

Control

- control of tool and machine functions
- operational data acquisition
- process analysis and monitoring
- pressing force measurement, temperature monitoring, tool locking device, cam-contactor group
- integration of eddy current sensors, double-sheet control, ultrasonic sensors
- safety control system
- valve gear
- self-diagnosis and monitoring
- plain-text error messages
- temperature monitoring
- customisation
- language selection

Connection

- bus systems, Ethernet network connection (LAN, W-LAN)
- telemaintenance

For the control system too, series-produced parts of leading manufacturers are applied

It's your choice... different drive concepts each with individual strengths

The correct drive for every job. It doesn't matter how you prioritise or what your requirements are, you have a choice of innovative and proven drive options. It doesn't matter what you decide – our modular concept makes it possible to adapt your ebu STA automated punching press to new needs.

A modular design concept, also in our drives:

So, for example, it's possible to replace a standard drive with a servo drive. This also applies to upgrades made to operational automated punching presses.

■ Direct drive

for higher strokes per minute, and easy pressing jobs

■ Back gear drive with planetary gears

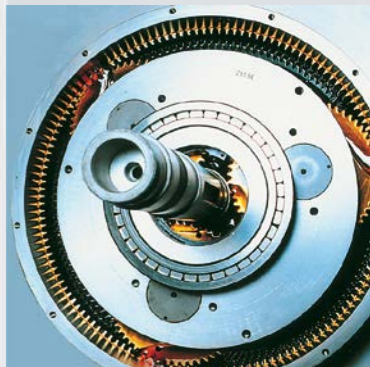
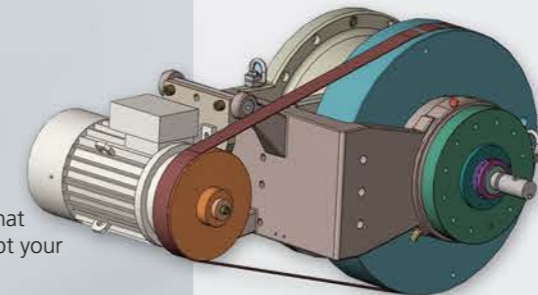
for large work capacity even with a small speed range, conventional planetary gears and variator drive system

■ Drag link drive

and of course

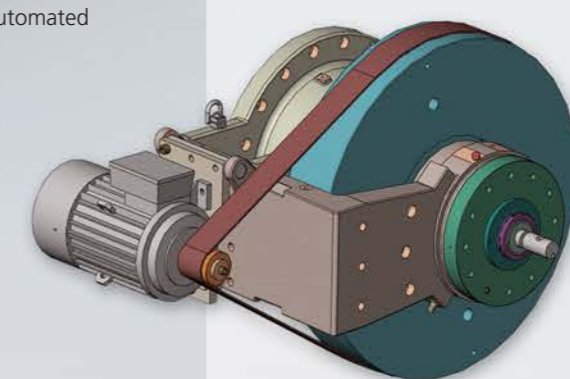
■ Servo drive in different versions

Planetary gear



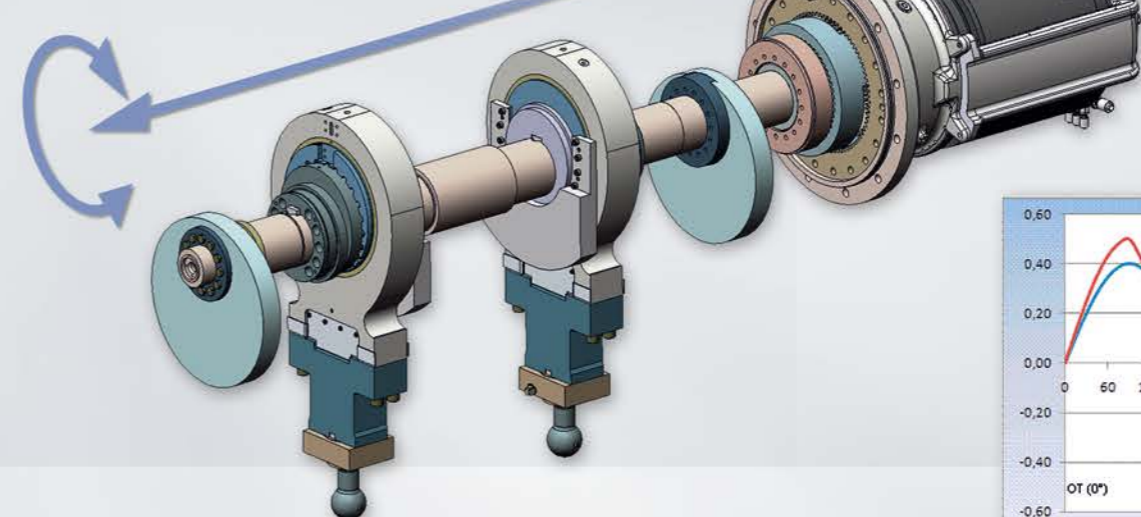
Consistent connection
between planetary gear
and direct drive

Direct drive

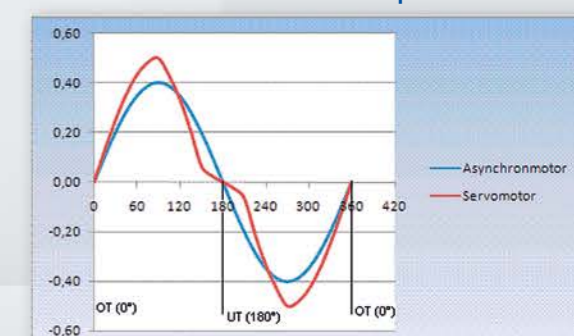


Neatly accommodated –
the ebu unit carrier

Direct drive



Graph example showing
modified ram speeds



ebu STA automatic punching press – leading the way in servo drive technology

Focus on flexibility: The ebu servo drive

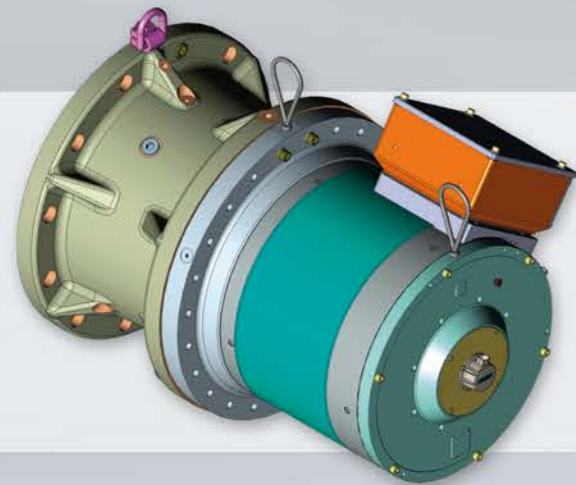
In metal forming processes, short cycle time is desirable for reasons of productivity. With a typical eccentric press, this is achieved by increasing the eccentric shaft speed. Limitations on an arbitrary increase are made by the special requirements of individual work stages. Special pulling, deflection, embossing and ironing stages are only operable if speed is limited. This oppositional requirement can only be answered with a differentiated ram motion and speed.

Therefore, we offer different servo drive solutions that we coordinate perfectly with your production process.

We will gladly inform you in detail. Contact us!

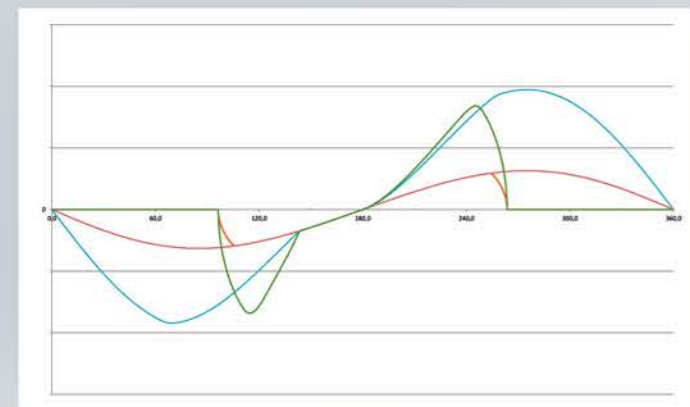


ebu STA 40 and 1000

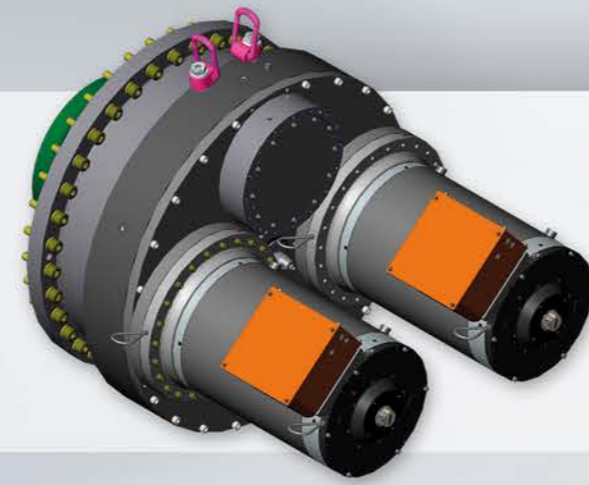


ebu single servo torque drive for pressures up to approx. 200 to

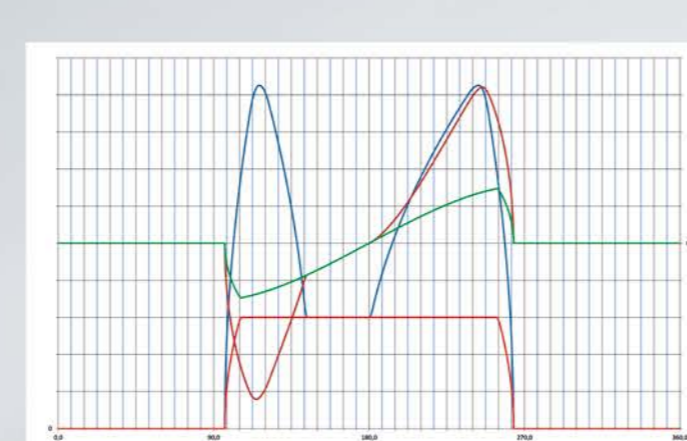
Diagrams of the ebu programme for design:



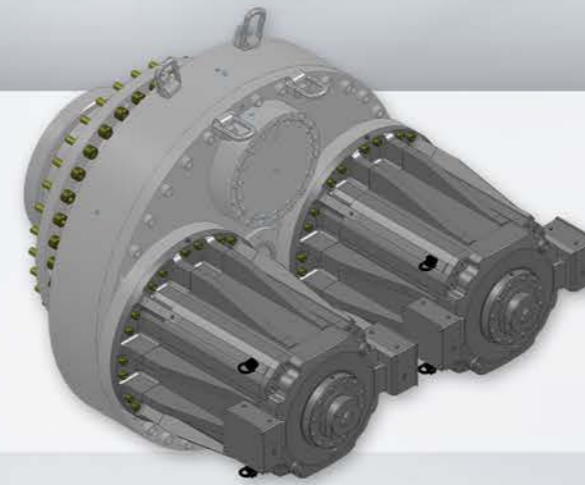
movement profiles



ebu double servo torque drive for pressures between 250 und 800 to

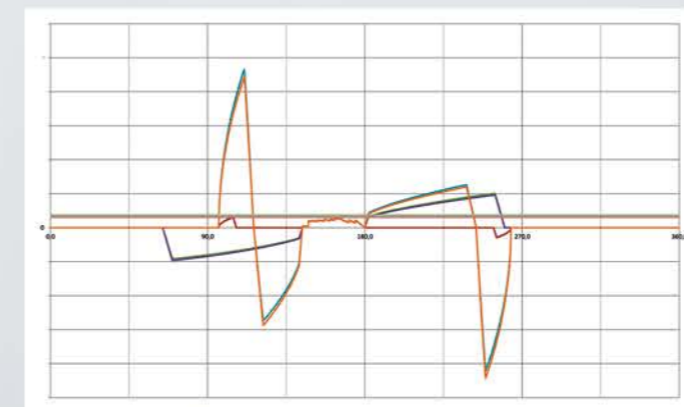


comparison special pendulum/pendulum



ebu double servo torque drive

from approx. 800 to pressure onwards for 1,000,000 Nm at the eccentric shaft and more ...



power consumption with/without energy management system

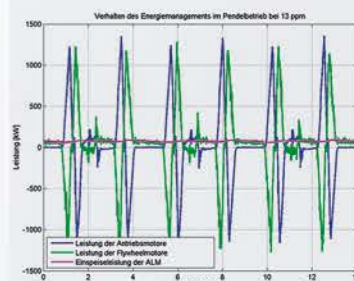
Highlights ebu Servo- Torque-Drive

- Increased output
- Positive energy efficiency
- Noise reduction
- New attachment/tool layout perspectives
- Higher tool service life, steady material set-up, steady cutting and forming
- Ideal for testing tools/tool development and setup
- Flexible application
- Ram speed freely programmable via multipoint
- Ideal for combined cut-and-flow processes
- Specially designed for working with high-strength materials
- Best adjustment to material and parts transport (integration of transfer)
- Possible operating modes: setting mode by handwheel, servo recirculation, pendulum, special pendulum, pilgering pendulum, curve disc switching, etc.
- Design of the best drive depending on the desired stroke height or application
- Internally developed ebu programme for best design of your drive



Benefit of energy management system:

Measurements in productive operation impressively demonstrate the benefits of the energy management system.



source: Siemens

ebu energy management

The high dynamics and the increased application rates require a much higher-performance motor than the standard drive. Top outputs up to 3.2 Mega-Watt are required for this. To avoid having to take these peaks from the mains, ebu offers an energy management system aligned with the punching automats or the plant in the best fashion possible. Depending on size, either capacitor banks and/or kinetic energy accumulators are used. This „reduces“ the energy output depending on application to up to 10 % (!) of the peak performance. The ebu energy management can also be used at machine standstill with active control to buffer power peaks within the company network in the scope of design.

Programme for design of modern servo presses by ebu UMFORMTECHNIK

- With the new control tool for design of modern servo presses, the STA can be optimised for the customer even during clarification of the requirements or project planning of the system.
- The most effective operating mode can be chosen easily.
- Consideration of the possible and required infeed length is included in the design.

Innovative drive concepts - flexibility and power for perfect results



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ebu Special-purpose Solutions and Service

We offer more than feeding technology.

We think in solutions and deliver complete plant combinations from a single source.

Our supply and service performances go above and beyond our own product portfolio: We configure for your cutting, feed press, and forming machines also the required automation, such as feeders, CNC-transfer systems, shears, depiling and robotic systems, and equip your machines in conformity with your particular requirements.

You profit from the individual ebu concepts.

ebu UMFORMTECHNIK –

As a competent partner we commit ourselves to the planning of automatized new installations and machine retrofits that satisfy your individual needs

In addition to new systems, we of course also perform complete general overhauls and modernisations of almost any press make.

ebuRetrofit – We bring your used one back up to speed!



ebu innovation in machine engineering

As one of the leading suppliers of premium quality presses and automatic punching machines we invest in targeted research and development and nurture close working relationships with our system partners – a synergy effect, from which you profit.

Your ebu-Service: Simply Competent

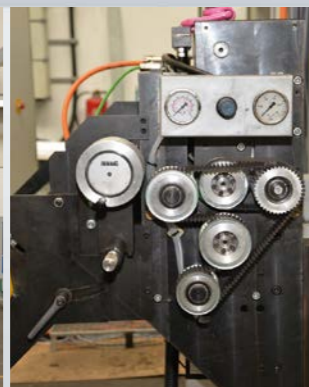
- Comprehensive support: we are always there for you.
- Expert introduction: we give you targeted start help.
- Comprehensive documentation: so you are left with no questions
- Individual training and instruction: always on the most recent developments.
- Personal production accompaniment: we stay until it is up and running.
- Basic service and customer service: we offer service according to need.
- Direct ebu-hotline: we are there for you 24 hours a day.
- Your ebu service technician: We are the experts; we come to you.
- Fast replacement part service: We have more than 90% of our parts in stock.



Through individual instruction you learn how to get the most out of your machine.



Mobile expertise: Our service technicians are always on the road for you.



ebu UMFORMTECHNIK is environmentally conscious

We are environmentally conscious when developing and constructing our machines – for the sake of nature and the generations following us. Our objectives are as follows:

- Considerate of resources
- Saving raw materials
- Low noise emissions
- Oil-free tool space
- Energy-efficient

Let yourself get advised by us on all details. We conceive the solution that meets your particular demands.

Eccentric press ebu STA 80 for fittings industry

Special features:

- Servo drive with multipoint functioning
- Disconnected unit carrier
- Solid welded-on table for taking up the transfer tool
- Additional outer pre-cutting ram

Automatic punching press for stator sheets

With complete strip feeding equipment and fully automatic and robotic depiling of finished pieces.

3-D-CNC Unit

in an 800-t sheet metal forming plant with complete strip feeding line and fully automatic depiling of finished parts

With us, service is a promise. We accompany you for the life of the machine.



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Subject to changes in technical specification in the course of further development. 07/2014



ebu UMFORMTECHNIK
ebu METAL FORMING TECHNOLOGY

Punching and forming machinery are our core competencies. With our pressing technology and our strip feeding system components, we have been recognised as industry and craft consultants for decades. Choose from our range of automated punching presses, C-frame presses, feeding attachments, straightening machines and coiler installations and get in touch with us. We love to share our extensive experience with you!

More detailed Information: www.ebu-umformtechnik.de



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