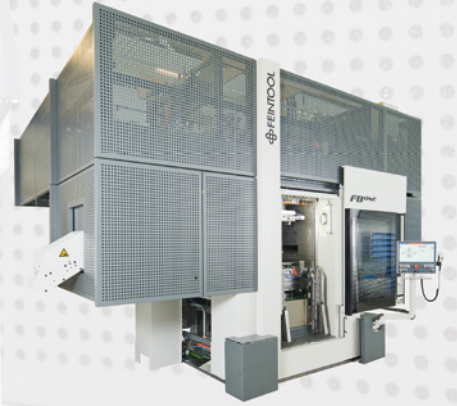


PRODUCTS & SERVICES  
FROM FEINTOOL  
FINEBLANKING TECHNOLOGY

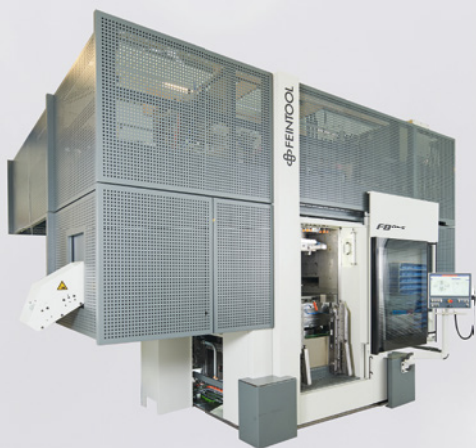
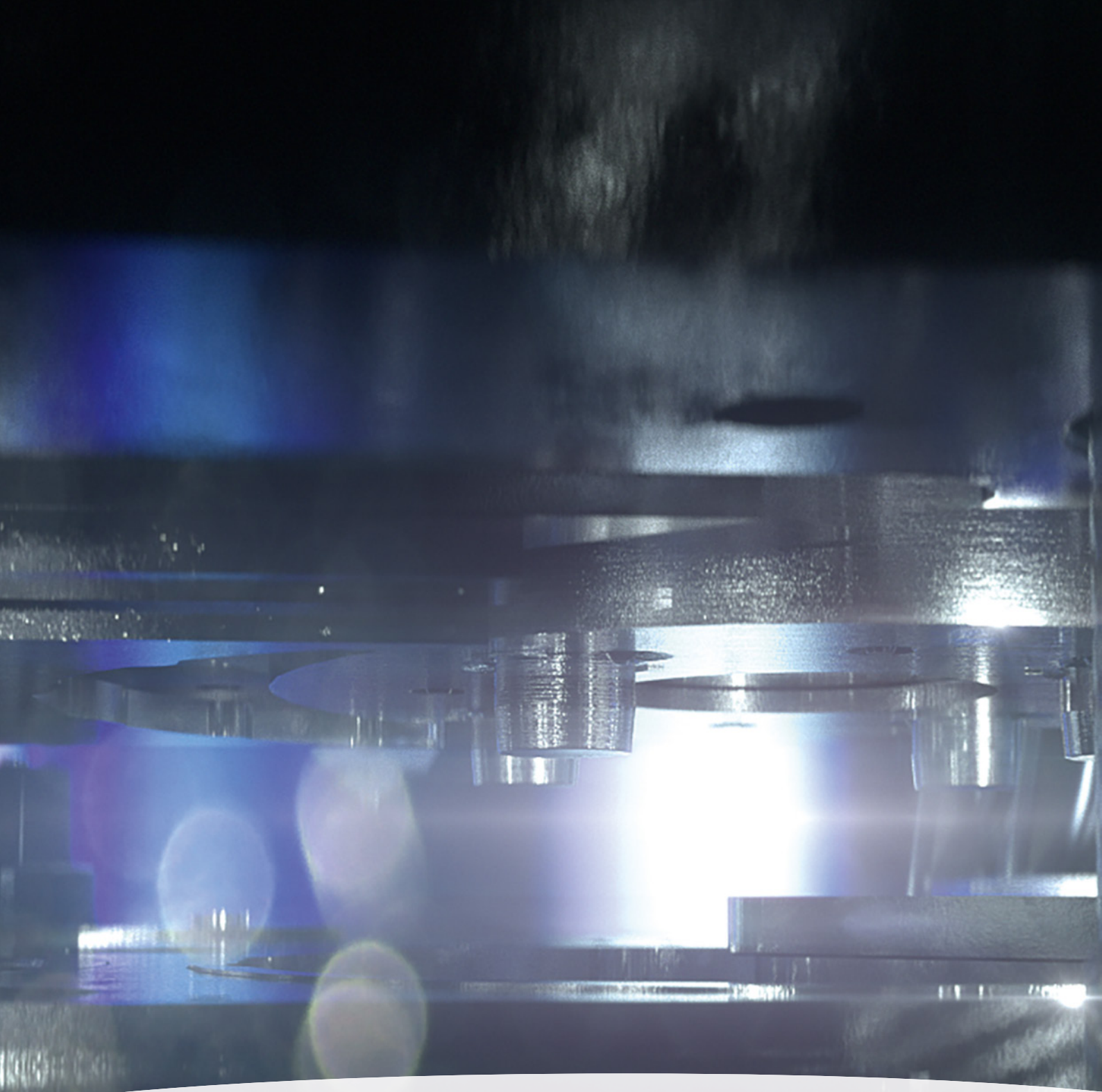


# FINEBLANKING REINVENTED

Hydraulic fineblanking presses  
at the highest level – the FB one

 FEINTOOL

EXPANDING HORIZONS



### **FB one series. The advantages:**

- ▶ Ecologically optimized with efficient use of resources
- ▶ Ergonomic, failsafe operation
- ▶ All-round improvement in performance
- ▶ Reduction in production costs
- ▶ Flexible plant construction

# THE NEW DIMENSION OF FINEBLANKING

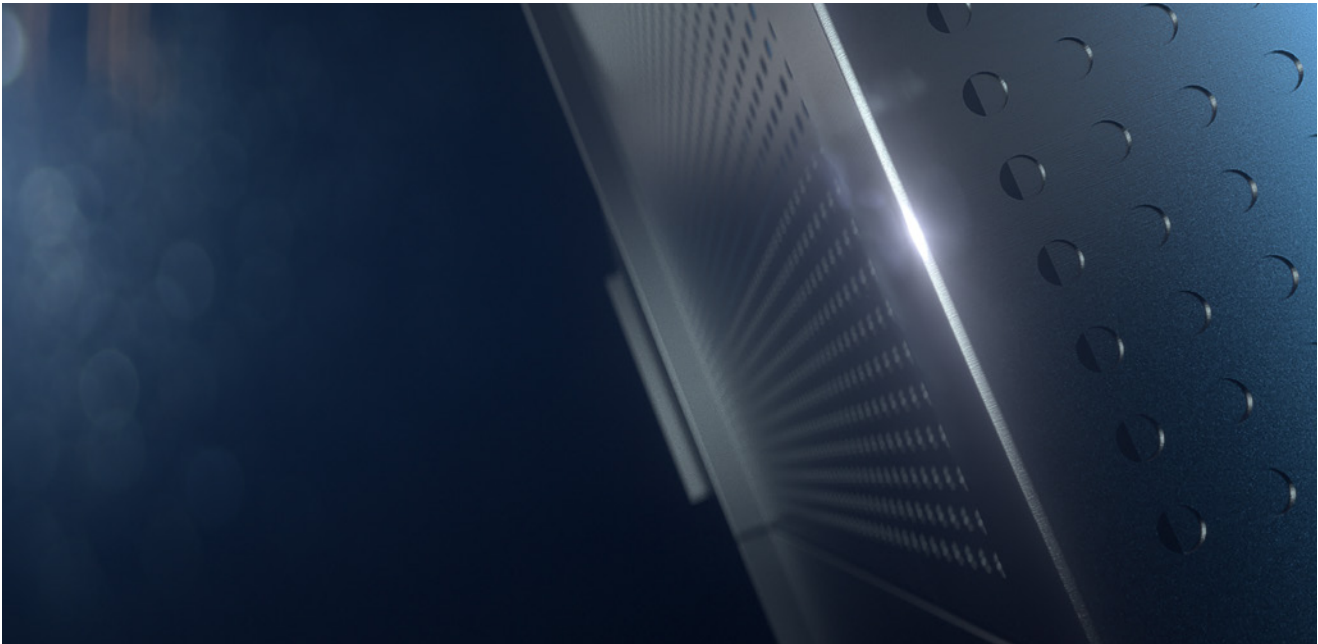
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With the FB one, the technology of fineblanking has reached a new performance class. The consistent advancement of the hydraulics, the design of the structure, the intuitive plant control system and the digital networking all make fineblanking more energy-efficient and environmentally friendly, and offer greater performance that is more accurate, more flexible and more profitable overall.



# MORE ENERGY-EFFICIENT THAN EVER BEFORE

Optimized energy consumption that's kinder to the environment



With the FB one, fineblanking becomes more effective, efficient, precise and versatile.

In the design of this new generation of presses, numerous functional details have been newly aligned with one another. The result is a high-tech production system that makes use of technical, procedural and economic advantages that were previously not possible.

The direct hydraulic operation of the FB one – also known as FEINdrive – uses less energy and yet achieves shorter cycles, permits a greater number of strokes, and thus boosts productivity. This reduces the cost of parts and ensures a better environmental balance all round.

**The new FB one saves energy and space and is gentle on the environment. The advantages:**



**Greater plant efficiency (OEE)**



**Environmentally optimized**



**Sparing use of resources**



**Environmentally friendly hydraulics**

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### **Up to 30 percent less energy consumption**

The innovative, entirely revised drive concept of FEINdrive consumes less energy while maintaining the same level of productivity. Thus the FB one achieves greater energy-efficiency (OEE).

### **Sparing use of resources**

The new press concept on two levels does not require a dug-out foundation. This permits a simplified set-up at the production site and allows for flexible and adaptable layout planning. Components can be fed out on all four sides. Less costly space is required for considerably greater capacity.

### **Quantity of oil reduced by around 50 %**

The direct drive concept in combination with the "Oxy-Stop" function permits operation with approx. 50 % less oil content in the hydraulic tank and a lower proportion of air in the oil – with longer intervals between oil changes.

### **Energy-saving waste separation**

For energy-saving and process-optimized cutting of the strip skeleton, the waste separator module can be adjusted optimally in line with the specific strip skeleton. Additional pistons permit energy-saving cutting of the full cross-section of the strip.

### **The advantages of energy-efficient direct drive technology**

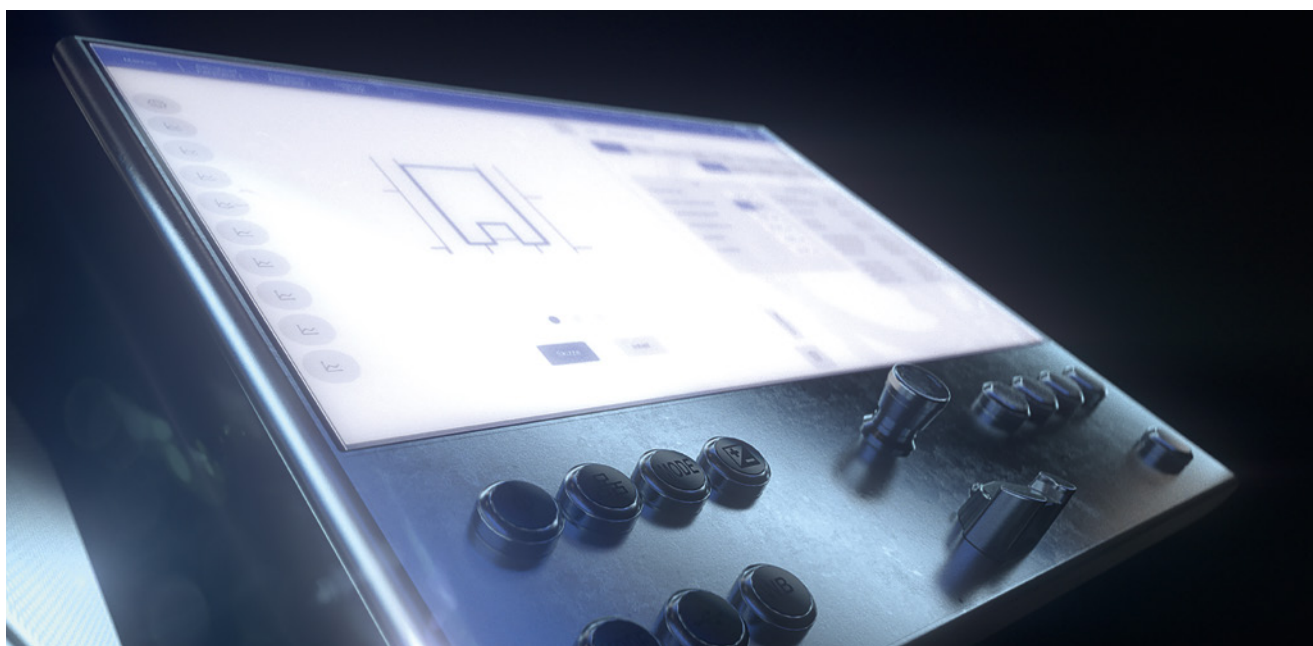
The new drive technology brings a wealth of advantages: The hydraulic direct drive of the ram, known as FEINdrive, consumes considerably less energy and requires less oil. Thanks to the very short switching times of the hydraulic components, very high stroke rates can be achieved with the utmost process reliability. At the same time, integrated damping of the sudden impact preserves the press and the tools.



The ecological optimization of the press has already been taken into account in the design.

# CONTROL MADE EASY

Ergonomic to use and easily integrated



The network-compatible control system of the FB one permits the digital integration of production processes.

The FB one slots seamlessly into production environments and is extremely adaptable when it comes to production preparation, retrofitting and tool replacement. It supports a condition-dependent maintenance concept and boasts an integrated audit trail for complete traceability in production.

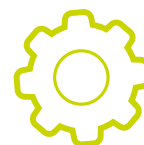
Simplified handling, intuitive operation, compatibility with existing tool concepts and integration in digital production processes make the FB one a production system that is compatible with Industry 4.0.

**Ergonomic to use and easy to integrate.**

**The advantages:**



**Saves time in preparations for production**



**Ergonomic, failsafe operation**



**Control system can be integrated and networked**



**Utmost operational convenience**

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**Intuitive operating concept (FEINvision)**

The modular construction of the software with its various toolboxes, combined with the multitouch display, allows for simple and intuitive operation of the system.

**Rapid tool and coil replacement**

Thanks to the semiautomatic strip feed-in, the electric strip width setting and the movable feed on the side, set-up time is minimized. Precalculated setting values mean the risk of inputting details incorrectly is reduced.

**Enhanced functional scope with FEINmonitoring**

The modern control system, compatible with Industry 4.0, records and analyzes various physical key figures on the machine's status. The regular and permanent recording of the machine's condition (condition monitoring) enables forecasting of the optimal time for maintenance work on your press.

**Integrated audit trail**

The complete traceability of production (production tracking) is an important customer requirement when it comes to quality management. With the now integrated "Audit Trail" function, all the process settings are fully traceable.

**Convenient management of tool parameters**

The tool parameters can be edited independently of the press, which saves time and reduces faults in process data entry and preparation. Process parameters are monitored for their plausibility and readjusted accordingly.

**User-oriented help function**

The operator can log comments on fault texts, allowing for targeted fault evaluation and rapid reactions.

**Open system architecture for industry 4.0**

The FB one's control system can be integrated into a company network problem-free. Process and tool data are thus also available online. Allocation of access rights tailored to each individual customer and in line with hierarchies prevents incorrect interventions and erroneous entries.

# NEW DRIVE – GREATER CAPACITY

## Precise and improved performance



With the FB one, stainless and high-tensile steels can be processed to a greater level of quality with a lower sudden impact and a higher number of strokes.

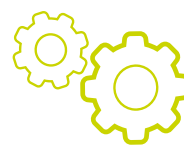
The development of the FEINdrive and the new concept of the overall press construction work in harmony with the new control system and operating concept – also known as FEINvision – to achieve unprecedented performance. With the FB one, fineblanking becomes not only more precise, but also faster and more efficient.

With up to 100 strokes per minute, the FB one achieves shorter cycle times and outstanding repetition precision, even at the highest production speeds. Stainless and high-tensile steels can be processed to a greater level of quality with a lower sudden impact and a higher number of strokes.

**The FB one achieves outstanding overall performance. The advantages:**



**Greater cost-effectiveness**



**Fundamentally new design features**



**All-round improvement in performance**



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The more robust design of the FB one makes the fineblanking process easier to control and more versatile. A longer press and tool service life and new possibilities for tool design increase cost-effectiveness.

#### **Improved repetition precision**

The use of the latest control system and fieldbus technology permits more precise control over the timing of hydraulic valves. Deviations in the cutting process are minimized and reliability increased overall.

#### **Increase in process reliability**

The use of the latest components and the technical debugging of numerous technological details lead to an increase in process reliability:

- ▶ Thanks to the waste separator being optimally adjusted to the strip skeleton, loose parts (scraps) are unable to escape during the waste separation.
- ▶ The controllability of the stripper and outfeed speed during the stripping of vee-rings and the push-ejection of the counterhold reduce impact forces in the end position, hence damage to machines is avoided.
- ▶ The adjustable pressing force of the drive rollers permits gentle transportation of the material.

#### **Greater rigidity of the press mechanism**

A fundamental element of the greater overall performance of the FB one is the redesign of the entire structure of the press. Solid pillars with prestressed tension rods reduce springiness by around 50%, and the press is able to absorb a much greater eccentric load than previously.

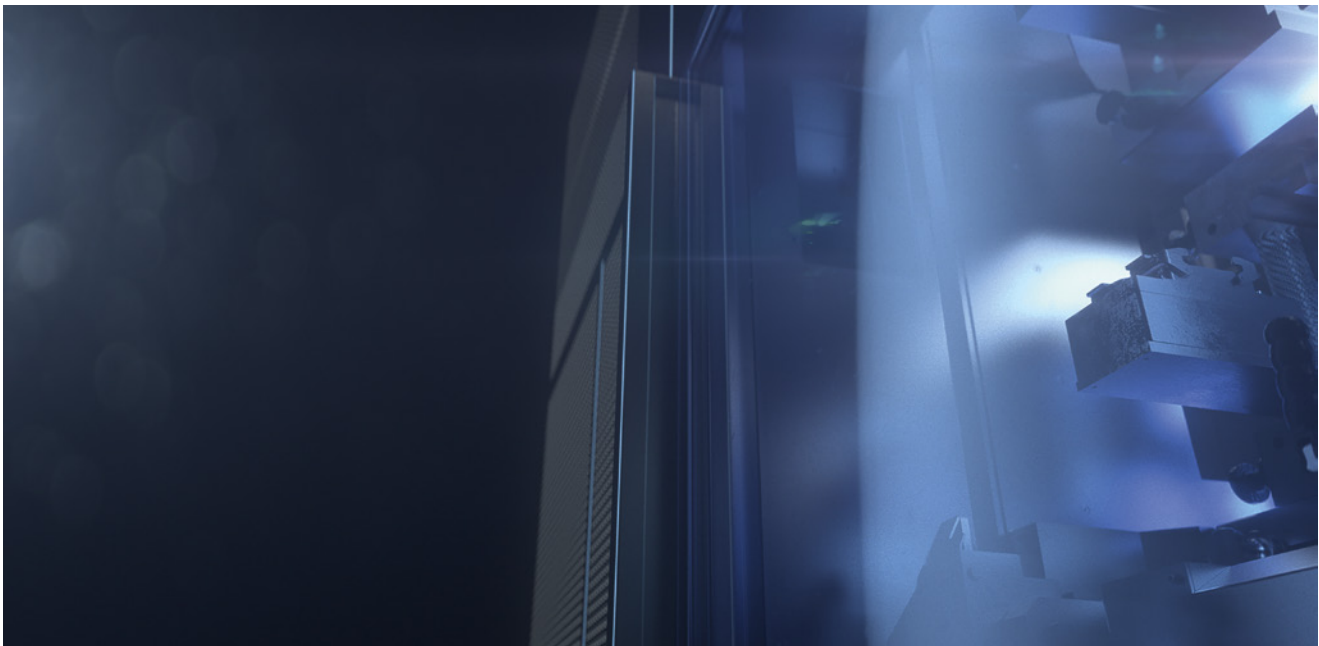
Minimization of the hydraulic oil pillars brings additional rigidity and a faster reaction time in the main tappet.

#### **Bigger effective area of hydraulics**

In order to expand the applications and ensure greater flexibility for the tool-designer, the active effective area of the hydraulics has been enlarged.

# SIMPLER, MORE VERSATILE AND MORE EFFICIENT

## An adaptable production system in a small space



The basic idea of the FB one: The building block principle permits very simple arrangement and combination of machine components.

The aim with the redevelopment of the FB one was to make individual plant configuration easier and to facilitate the most flexible possible adaptation to continually changing production layouts. The choice of a modular building-block principle has enabled the realization of this idea.

The new concept permits flexible arrangement and combination of machine components. The reduction in the number of components and their standardization – lots of matching parts for various different plant configurations – streamlines maintenance and spare parts management.

**The new FB one makes fineblanking more flexible. The advantages:**



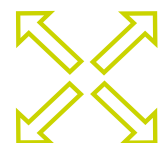
**Modular plant structure**



**New plant layout accessible on all sides**



**Compatibility and flexibility among the tools**



**Possibility of expansion in a variety of ways**

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The modular plant structure simplifies and shortens production site planning and improves plant accessibility. The FB one can be adjusted to on-site conditions.

#### **Space-saving set-up**

Thanks to the newly developed FEINdrive drive concept, the hydraulic aggregate is attached to the maintenance platform via a walkway. This frees up space and opens up more possibilities in the design of the production layout. The dual-level plant layout creates space around the press and thus permits improved access for maintenance work.

#### **No dug-out foundation required**

The new press layout makes a dug-out foundation obsolete. This means the press can be installed at the production site more quickly and efficiently.

#### **Flexible tool compatibility**

Customers purchasing the FB one can choose between the HFA and X-TRA versions. The compatibility with existing tool concepts makes special solutions superfluous. Individual components were used to implement the idea of the modular construction – for example, feeds are available in two variations and can be applied on the feed-in or feed-out side.

#### **Sudden impact damping**

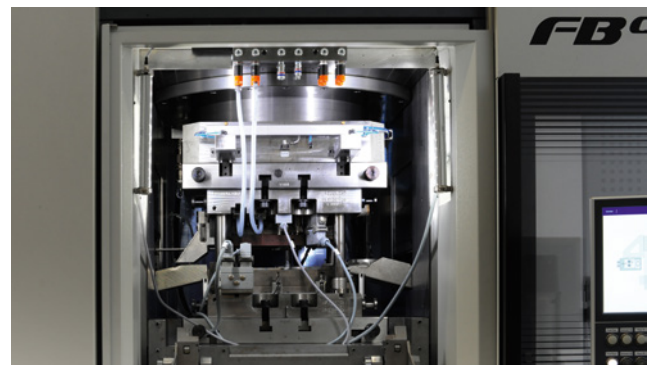
The abrupt acceleration of the piston (sudden impact) is prevented by hydraulic counter-pressure according to the principle of shock absorption.

#### **Retrofitting with additional hydraulics**

The press can be fitted and configured with up to eight further hydraulic forces (4th to 11th force). This way, enhanced tool concepts and a more rapid cycle rate are possible.

#### **Handling of parts and waste**

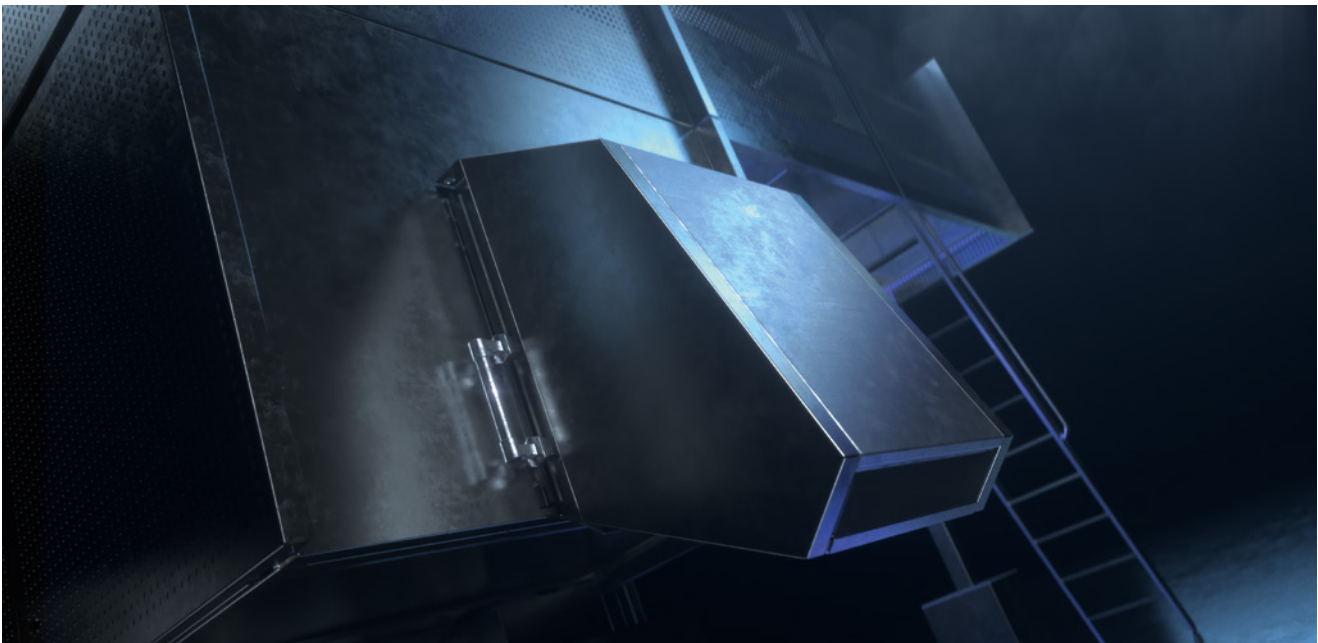
The modular plant layout permits the incorporation of additional transport channels on all four sides in the open height of the plant.



The increased open height generates new possibilities for more complex tool design.

# A LEADER IN FINEBLANKING INNOVATIONS

An investment in the future



Innovation in every regard: The FB one marks a new era of cost-effectiveness and is a key factor for profitable manufacturing processes.

Alongside the improved performance parameters in capacity, energy-saving, ergonomics and connectivity, there are also fundamental considerations that make purchasing the FB one a good investment.

## **Efficient maintenance and servicing**

To make maintenance work easier, the structure of the press consists of easily accessible three-part machine stands with a lower section, pillars, tension rods and an upper section.

## **A modular structure allows for a flexible investment**

The use of up to eight additional hydraulic forces opens up the option of gradually upgrading the press system. This makes it possible to stagger the investment.

## **Reducing the cost of stocking spare parts**

The high number of matching parts and the compatibility of the components within the press sizes creates cost-saving synergy effects.

## **Increased overall process reliability**

Altogether, the many advantages represent a considerable incentive to invest: Simplification of operation and maintenance, smart production processes, greater machine availability, longer tool service life, reduction of maintenance costs and shorter retooling times. Not least, simplified adaptation in line with the customer's own configuration preferences ensures a short planning and implementation phase.



# THE ADVANTAGES OF THE FB ONE AT A GLANCE

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## **Energy and environment**

- ▶ Up to 50 percent less oil
- ▶ Oil ages more slowly and doesn't need to be changed as frequently
- ▶ Up to 30 percent less energy consumption
- ▶ Energy-saving waste separation – optimally adjusted to the strip skeleton

## **Ergonomics and connectivity**

- ▶ An open system in every regard
- ▶ Compatible with Industry 4.0
- ▶ Intuitive control system
- ▶ FEINmonitoring keeps a constant eye on the state of the press
- ▶ Audit trail means all process settings are traceable
- ▶ Optimal accessibility
- ▶ Simplified strip threading

## **Performance**

- ▶ Higher number of strokes
- ▶ Greater repetition precision
- ▶ Improved reliability
- ▶ Greater rigidity of the press mechanism
- ▶ Bigger effective area of hydraulics
- ▶ More robust design
- ▶ Longer service life of tools and presses

## **Flexibility**

- ▶ Modular structure creates adaptability
- ▶ Press concept on two levels saves space
- ▶ Dug-out foundation no longer required
- ▶ Greater possibilities in production design
- ▶ Compatible with existing tools

# OUR SERVICES – ALWAYS THERE FOR YOU

## Feintool Service – ready to help, wherever you are

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Professional maintenance service on site



Professional support through remote maintenance

### **Hotline service – globally connected**

Regardless of the time zone of your company's production: Through the service hotline, you can access Feintool's concentrated expertise. Our hotline staff know the Feintool fineblanking plants inside out, and have a direct line to the service technicians and access to original spare parts. The remote diagnosis via telephone or internet helps to resolve faults quickly. You can find the contact data at [www.feintool.com](http://www.feintool.com)

### **FEINmonitoring and Smart Maintenance**

With the intelligent analysis and maintenance tool FEINmonitoring, you increase the availability and cost-effectiveness of your plant. In-built sensors continually oversee the condition of the technology in your fineblanking press. The data obtained is analyzed and transmitted to us via the internet. Together with Feintool Smart Maintenance, you reduce unplanned downtimes, optimize maintenance cycles and increase the efficiency of your presses.

### **Rapid delivery from the central warehouse**

In our central warehouse in Stockstadt near Frankfurt am Main, we stock approximately 6,000 original spare parts. The warehouse has around 90 percent of the items requested, so these are available immediately. Thanks to its central location, delivery times are correspondingly short and your outage times minimized.

### **A strong service from Feintool**

- ▶ On hand worldwide
- ▶ Fewer outages
- ▶ Minimized non productive time

# FEINTOOL – A LEADER THE WORLD OVER

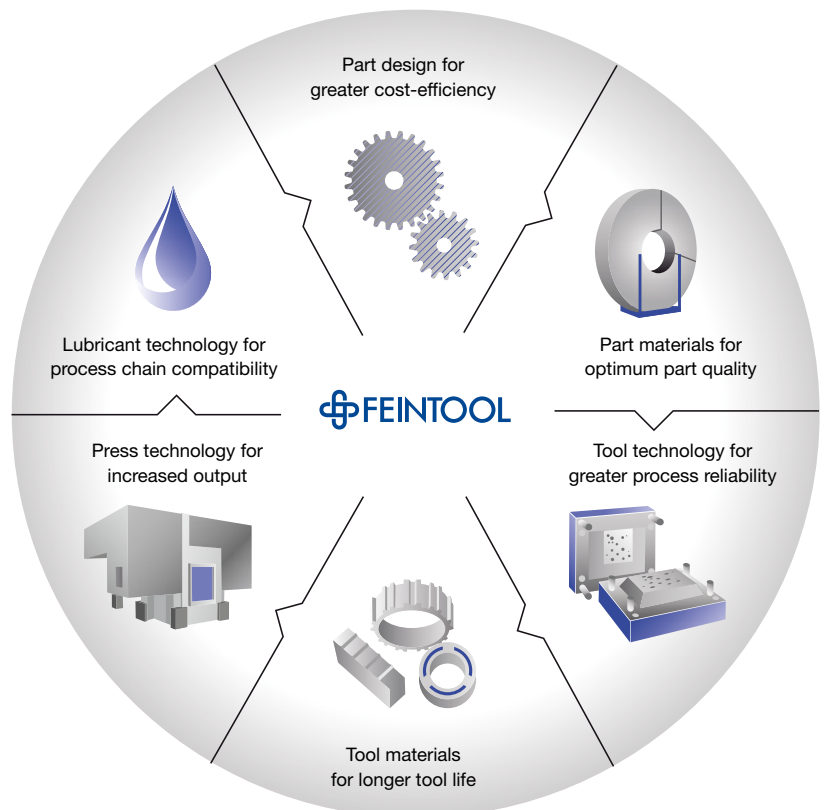
## Technical support



Training in fineblanking technology

### Comprehensive service portfolio

Feintool stands for complete solutions with presses, tools and peripheral systems for fineblanking and forming technology. Customer-specific developments and plant production, as well as comprehensive support with advice, engineering and training are at the core of what we do. The optimal interplay of plants, tool systems, materials technology and parts design is fundamental to the success of a project. Feintool is a globally active provider of all core competences and at the same time offers comprehensive technical advice and all-round customer support.



Feintool technical expertise in every sub-area

### The direct line to the best solution

Feintool's specialists guide customers along the entire process chain. Their solid advice ranges from designs and materials for parts and tools to lubricants. On top of this, customers benefit from Feintool's knowledge of press optimization, machine operation and the preventative maintenance and servicing of their plants.

### Feintool – competence from the technology leader

- ▶ Comprehensive technical advice
- ▶ Process optimization
- ▶ Services from one source

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