

FORMING THE FUTURE



SCHULER'S INNOVATIVE AUTOMATION SOLUTIONS



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FROM THE COIL TO THE FINISHED COMPONENT.
SCHULER'S COST-EFFICIENT AUTOMATION
SOLUTIONS.



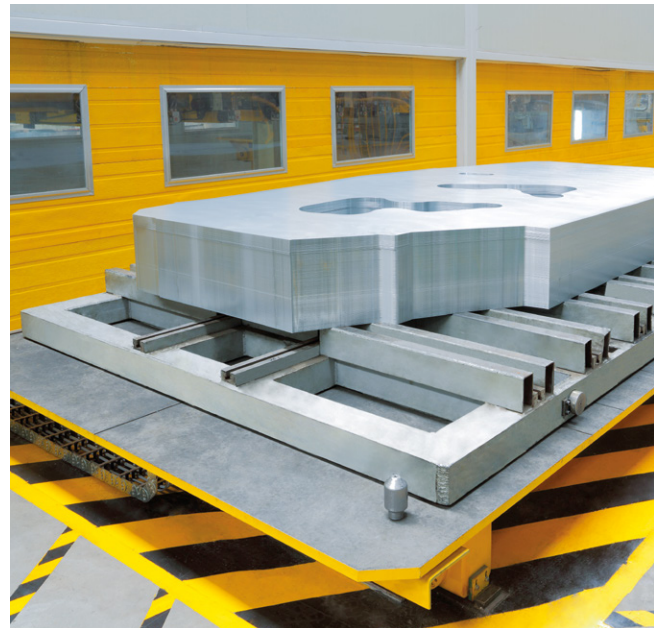
Our experts for blank cutting and coil feeding are based in Heßdorf.

Schuler in Heßdorf develops and manufactures state-of-the-art machines and systems for sheet metal processing as well as automation and transport solutions for series production and for automation and transport tasks in production for customers from the automotive, supplier, electrical and household appliance industries. The product range includes coil lines with state-of-the-art straightening technology, dynamic roll feed units and fully automatic stacking systems as well as press stacking systems, blankloaders and transfer systems for the highly dynamic transport of stamped and formed parts. Schuler has also established itself as a global technology leader in the field of blanking lines with lasers, presses, and cross-cut shears.

As a system supplier, we automate your forming systems intelligently and practice-oriented. This allows you to increase the performance of your production efficiently and economically. Whether a broad range of parts, high production rate, and low spatial requirements: Schuler automation solutions guarantee high efficiency and reliable production processes.

We also offer tried and tested solutions for the efficient manufacture of top quality parts for the modernization of existing systems.

Schuler automation solutions are impressive in all areas of forming technology.



In addition to transfer systems and coil lines, our product range also includes highly efficient blanking lines.

BLANKING LINES.

INDIVIDUAL SOLUTIONS FOR YOUR PRODUCTION.

Performance across the entire line. Schuler blanking lines offer the complete process chain – from coil to blank stack – from a single source. They work with state-of-the-art safety and control concepts. Their modular design makes customized solutions for the individual user possible. All system components have been proven in practice, are precisely aligned with each other and stand for top availability and reliability. Expansions for processing aluminum and high-strength steel can be retrofitted easily. No matter where the Schuler system will be used – our services are available worldwide.

Competitive advantage thanks to innovative technology. Following the development and optimization of our systems for aluminum cutting and the introduction of servo technology in blank cutting, which enables highly productive and die-friendly production, our DynamicFlow Technology is the start of a revolution in blank cutting: highly productive, die-free cutting of coil material using fiber lasers. Our integrated control concept, which is adapted to all system components, ensures high availability and user-friendly system operation for our customers.

Thanks to numerous research projects, our technologies are based on the latest scientific findings on the energy efficiency of systems. A benefit that can represent a decisive advantage for our customers in global competition. Since energy saving potential particularly depends on the material to be processed and the operating mode of individual system components, it can vary considerably. The greatest energy savings can currently be achieved in the processing of aluminum and with the oscillating stroke press operating mode.



The requirement: perfect blank quality for the widest range of materials.

For example, the development of our systems has led to significant potential for energy savings. This is around 120 kW for steel and around 180 kW for aluminum.

LASER BLANKING LINE. FLEXIBLE, COMPACT AND PRODUCTIVE.



Laser cutting systems for blanking lines have proven their reliability and high output in the series production of bodywork parts and are particularly suitable for production processes with frequent product changes. Schuler's innovative DynamicFlow Technology enables a highly dynamic cutting process and high coil speeds for the coil material continuously moving forward. On the one hand, this leads to an increased output and higher system availability; on the other hand, the process ensures gentle transport of sensitive materials such as aluminum.

The benefits:

- Elimination of dies as well as their storage and maintenance
- Material savings through digital nesting
- High output
- Fast product change
- Significantly reduced time spent introducing new products
- Flexibility in the design of blank forms
- Outstanding blank quality
- Simple relocation of production
- Low operating costs

Laser Blanking Line 3.21 – the powerful one. With three powerful laser cutting heads, the Laser Blanking Line 3.21 is particularly suitable for the efficient production of outer skin blanks with a coil width of up to 2 150 mm. In addition, it provides a wide range of options to optimally adapt the system to your needs.

Laser Blanking Line 2.18 – the all-rounder. The Laser Blanking Line 2.18 has two cutting heads and its modular design makes it a cost-optimized alternative with slightly reduced output. It can be used to produce blanks for various components. Coil material with a coil width of up to 1 880 mm can be processed.



Flexible production from the production line with Schuler Laser Blanking Lines.



www.laserblanking.com

BLANKING LINE WITH PRESS. MAXIMUM OUTPUT WITH SERVODIRECT PRESSES.



Individual movement sequences. In addition to the use of conventional presses (mechanical or hydraulic), systems for the manufacture of form blanks are nowadays preferably equipped with servo presses. But thanks to the Schuler ServoDirect technology, the movement sequences of the press can be individually adapted to the diverse blanking dies. On one hand, this significantly increases the output performance and service life of the dies. On the other hand, the systems are designed with this technology for processing a broad variety of materials such as aluminum or high-strength steel. Even surface-sensitive material can be processed gently with a press blanking line at top output performance.

All upstream and downstream automation components, such as the roll feed unit powered by servo motors or the flexible Stop-to-Drop stacker, support the high press performance and ensure high-performance dynamics in blank cutting. A high degree of automation ensures the quick product change and smooth production process.

The benefits:

- Perfect for the production of contoured blank production
- High production rate
- High degree of automation
- Gentle on dies through ServoDirect Technology
- Proven technology



Maximum output with ServoDirect presses.

Our cutting solutions – cutting press:

- Up to 105 strokes per minute
- Selectable tonnage (6,300 – 12,500 kN)
- Servo drive with torque motors, incl. energy accumulator storage or conventionally with flywheel
- For servo drive: increased cycle time and reduction of die wear thanks to die-specific optimization of slide movement
- Monoblock version or alternatively split version
- One or two moving bolsters (“Front-Back”, “T-Track” or “L-Track”)

BLANKING LINE WITH CROSS-CUT SHEAR. THE IDEAL SOLUTION FOR SIMPLE CUTS.



Blanking line with cross-cut shear – the solution for simple cuts.



Perfect for the manufacture of rectangle, trapezoid or arc cut blanks.

High production rate. Schuler offers blanking lines that are equipped with cross-cut shears for the manufacturing of rectangular, trapezoid or arc cutting blanks. When the manufacturing process is limited to simple cuts, cross-cut shears are the perfect solution - not only with respect to their acquisition costs but also with respect to their output performance. The shears can be equipped with an optional automatic die change.

The benefits:

- Perfect for the production of rectangle, trapezoid or arc cut blanks
- Attractive price-performance ratio
- High production rate
- High degree of automation
- Proven technology

Our cutting solutions – cross-cut shear:

- Up to 110 strokes per minute
- Version as 2-column or 4-column shear
- Pivoting straight cut for rectangle, trapezoid and parallelogram blanks
- Interchangeable blanking dies with short changing times
- Optional: arc cut / wave cut dies

COIL FEED LINES. PRECISION AND PROCESS RELIABILITY FOR THE HIGHEST MATERIAL DEMANDS.

Flexible configuration. Our product portfolio includes coil feed lines in different basic equipment versions and is designed for all press types. The modular concept allows the flexible configuration of the systems, for which we offer a comprehensive option package. Schuler offers a wide range of coil feed lines for every application, in compact or long design. The degree of automation is scalable and can be individually defined.

- Coil feed lines of the Basic Line
- Coil feed lines of the Compact Line
- Coil feed lines of the Power Line

“Power Feed”. Especially for highly dynamic presses, the automation time can be further reduced thanks to Schuler coil lines and the “Power Feed” roll feed unit. In accordance with the mass to be moved, the Schuler “Power Feed” is assigned to different performance classes: Weight class “L” (Light) with up to 100 kilograms of moved mass, “M” (Medium) with up to 180 kilograms of movable mass or “H” (Heavy) with up to 300 kilograms of movable mass. The performance extends up to a speed of 45 m/s for the coil material.



A good straightening result ensures the subsequent component quality.

Correct straightening – straightening of high-strength steels and fine sheet metal. Correct straightening creates a clear advantage in terms of process reliability, productivity, and cost effectiveness. With the Schuler straightening machines, our coil lines offer ideal solutions – even for the most demanding processing steps. Our straightening machines are designed for a very wide and modern range of materials. Starting with soft deep-drawn steels and aluminum to shiny stainless steels and complex materials with maximum strength.

Any material requirement can be taken into account using different versions of Schuler's straightening machines. The best straightening results are generated with 13 or 17 straightening rollers in multi-roller straightening machines – starting with five straightening rollers from the Basic Line and then nine straightening rollers from the Power and Compact Line.

COIL FEED LINES.

COIL FEED LINES IN COMPACT DESIGN – THE SOLUTION FOR HEAVY DUTY JOBS.



Particularly compact: coil feed lines in compact design.

Your advantages:

- Attractive price-performance ratio
- Can also be used in reduced space conditions
- Quick availability of systems and components
- Process reliability even with the highest material requirements
- Short downtimes
- Short changeover times
- Optimal coordination with the press
- Simple troubleshooting
- Online diagnosis
- Flexible connection to existing press systems

Process-reliable, modular and flexible. Schuler coil feed lines in compact design were developed specifically for the demands of customers from the supplier industry. They provide process reliability for the highest material demands. The systems are optimally suited for the manufacture of structural parts and for processing high-strength materials - including in the higher coil thickness range. Additionally, they are the perfect solution for use in smaller spaces. Special versions of the compact design can be produced up to a maximum coil thickness of 25 mm.

COIL FEED LINES – POWER LINE. FOR HIGHLY DYNAMIC PRODUCTION PROCESSES.



Schuler Power Line – the high-performance coil line.

Efficient and adapted to all types of presses. Schuler's Power Line coil feed lines are perfect for the highest demands in the production process. They can be used flexibly, for example to manufacture structural parts, electrical sheets and components from materials with sensitive surfaces such as sinks and hotplates. The Power Line shows its strength when processing high-strength materials up to 750 N/mm². Even the most stringent material requirements can be met using the powerful straightening machines.

Flexible due to modular structure. The basic versions consist of precisely predefined assemblies. This gives our customers a significant cost advantage and enables rapid availability of the system and system components. In addition, the modular design allows for fast and cost-effective retrofitting, for which we offer a comprehensive option package. In this way, you remain flexible and can respond to all requirements with manageable investments.

Your advantages:

- Attractive price-performance ratio
- Wide range of retrofittable options
- High production rate
- Can be configured for the manufacture of structural and shell parts
- Rapid retrofitting
- Scalable weight classes: Light > Medium > Heavy
- Variable degree of automation
- Energy-efficient through optimal drive design
- Quick availability of systems and components
- Short downtimes
- Short changeover times
- Optimal coordination with the press
- Intuitive operating concept
- Simple troubleshooting
- Online diagnosis
- Flexible connection to existing press systems
- Processing of high-strength materials

BASIC DATA OF THE BASIC EQUIPMENT VERSIONS

Coil width [mm]	650 – 1,850
Coil thickness [mm]	Up to 8
Coil weight [t]	Up to 30
Coil cross section [mm ²]	Up to 6,500

TRANSFER SYSTEMS. RELIABLE PRODUCTION PROCESSES FOR ALL REQUIREMENTS.

In the area of transfer systems, you are safe with Schuler. Our automation solutions offer reliable production processes in cost-efficient conditions for all requirements.

Whether a wide range of parts, high production rate or low spatial requirement – equip existing systems with Schuler transfer solutions and increase the production rate.

All models have clamping boxes that can be mounted in the press between the press uprights, or externally on the press upright. In addition, they can be mounted above (hanging) or below (standing) of the transport level, which leads to maximum flexibility for project planning and also when retrofitting existing presses.

The flexible transfer systems can also be retrofitted easily and independently of the press. By installing a new transfer into an existing press, the system can be modernized cost-effectively and efficiently. Reliability, precision, and output are decisively increased. Schuler three-axis transfer systems are quickly available and easy to integrate into the press.



Safe parts transport and high output with Schuler transfer solutions.

Active anti-vibration system “AVD”. Full load and strong motorization can lead to high vibration amplitudes in the transfer rails. In practice, in order to ensure reliable parts transport, the motor power and thus the production stroke rate had to be reduced or, alternatively, the transfer rail profile had to be enlarged. The active anti-vibration system reduces these vibration amplitudes. This ensures maximum performance and maximum system output, and opens up the possibility of using smaller transfer profiles with the same output.



[www.schulergroup.com/
transfersystems](http://www.schulergroup.com/transfersystems)

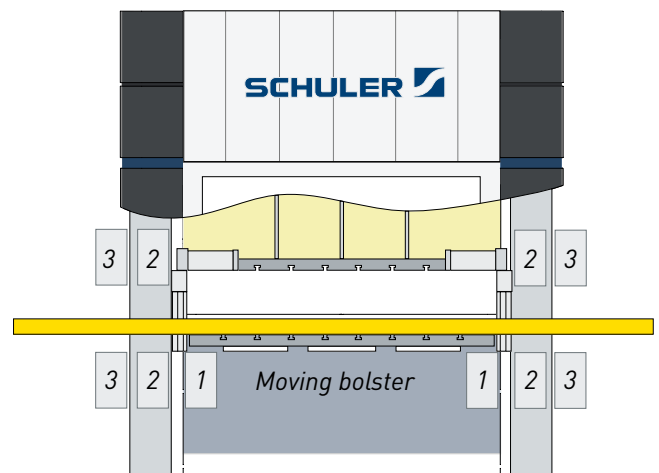
TRANSFER SYSTEMS - PROTRANS. SCALABLE PERFORMANCE ACCORDING TO THE MODULAR PRINCIPLE.



Schuler ProTrans: flexible in use for the most diverse requirements.

High level of flexibility. With its three different motors “L” (Light), “M” (Medium) and “H” (Heavy), the Schuler ProTrans covers low, medium and high part weights and stroke rates. Overall, the Schuler ProTrans follows the modular principle: the performance can be scaled as required and adapted to different applications.

With the motorization “S” (Speed), Schuler also offers a high-end transfer solution for high-performance presses. Its application can once again increase the production result by up to 30 percent. This performance boost is especially achieved by the use of extremely lightweight and low-vibration carbon rails in combination with the ServoDirect drive. This makes them ideal for applications in highly dynamic production processes.



Variable clamping box positions for maximum flexibility and easy retrofitting.

The ProTrans clamping boxes can be mounted on the inside of the press uprights (1), between the press uprights (2), or on the outside of the press uprights (3). The different positions of the clamping boxes make it possible to respond to different presses and system concepts, so that high flexibility is guaranteed in the design during the planning phase as well as for retrofitting already existing presses.

TRANSFER SYSTEMS – INTRATRANS.

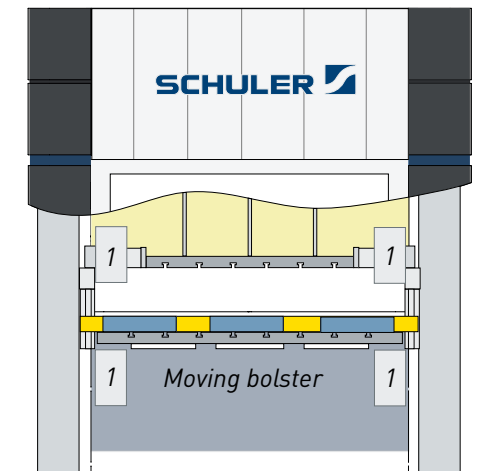
OPTIMAL ADAPTABILITY TO DIFFERENT APPLICATIONS.



Compact and a real alternative to progressive die manufacturing: the Schuler IntraTrans.

Less material consumption. The Schuler IntraTrans can be equipped with all motorizations from “L” (Light) to “S” (Speed) and thereby suitable for use in conventional presses to high-speed presses. With the IntraTrans, the transfer rails do not operate through the press window but are mounted between the press uprights. Therefore by using this compact transfer, larger parts can be manufactured with the same transfer press. This transfer solution is also a true alternative for progressive die manufacturing.

The parts feed in the direction of flow is handled by movable carriages that are located on the transfer rails and for which the servo drives are integrated in the rail. Every carriage of the IntraTrans can be moved individually so that, for example, centered joining of parts or different increment distances are possible.



Various clamping box positions for mounting the IntraTrans.

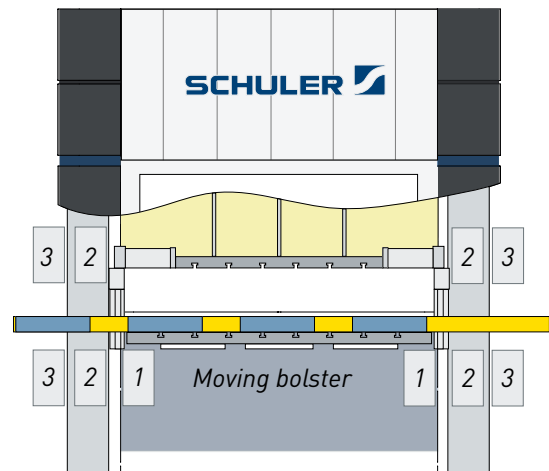
Thanks to its compact design, the IntraTrans requires the same space as the progressive die. The transfer can thereby demonstrate its complete advantage: less material usage because the parts are transported further by the carriages and not the coil material itself. In the retrofit area, the IntraTrans is therefore perfectly suitable for the unit cost reduction with existing progressive presses. Access to the die and die change is still possible without restriction.

TRANSFER SYSTEMS – INTRAFEED. HIGH PRODUCTION RATE.



Particularly compact and powerful: the Schuler IntraFeed.

New freedom in die design. On the IntraFeed, the grippers for parts transport are not fixed to the rails, but are instead mounted on movable carriages that have their own feed drive. This considerably shortens the length of the transfer rails and thus also that of the entire system. Positive side effect: because the moved mass decreases, the production rate increases. In addition, the movable carriages mean that the individual forming stages can be arranged at variable distances. This opens up new freedom in terms of die design because there is room for more forming stages on the press bed.



Flexibility in design and retrofitting thanks to different clamping box positions.

It is therefore conceivable to operate the cutting stage and the following forming stages each with separate carriages. This allows the step spacing to be optimally designed. In addition, several work steps can be performed with one die thanks to the U-shaped travel.

The selectable positions for the clamping boxes on the inside and outside and between the press upright depend on the flexibility of IntraFeed.

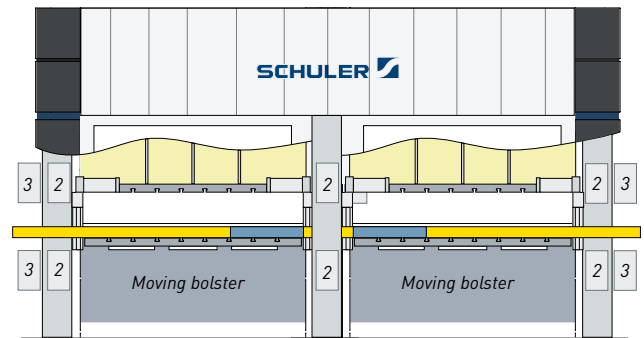
TRANSFER SYSTEMS – GT-TRANS.

FLEXIBLE SOLUTION FOR MULTI-SLIDE PRESSES.



Schuler GT-Trans for multi-slide presses.

Increased productivity. The GT-Trans was specially developed for use in multi-slide presses. This solution is also perfect for retrofitting existing systems, as it offers a high degree of flexibility thanks to the variable positions of the clamping boxes. The complete rail of the transfer unit moves in the direction of flow during parts transport. In this process, an extra carriage enables the transport from one slide to the next without empty stations. In this way, equipping effort is not required and a higher production capacity can be achieved. This means that the productivity of the entire system can be significantly improved.

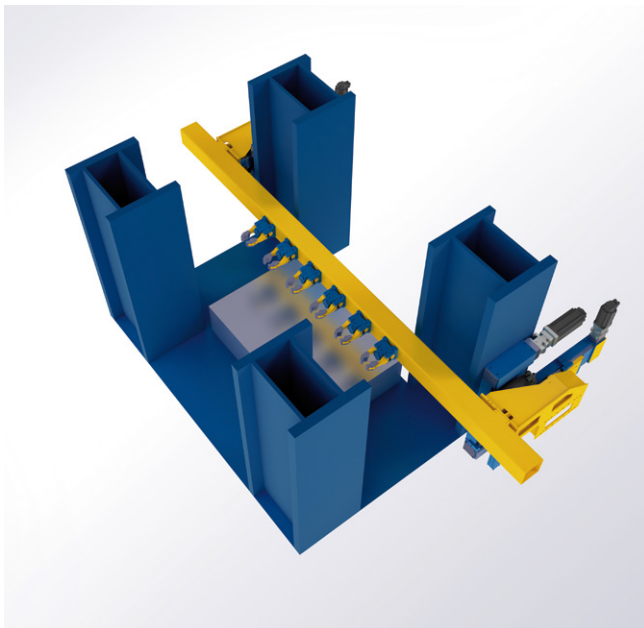


Particularly efficient: from slide to slide without intermediate storage.

The GT-Trans has three freely programmable axes with perfectly synchronized movement, which ensure maximum flexibility and particularly safe parts transport.

The modular design of this transfer system enables simple and cost-effective maintenance as well as uncomplicated retrofitting.

TRANSFER SYSTEMS – MONO BEAM. THE ROBUST ONE FOR SEMI-HOT AND HOT FORMING.



The robust Mono Beam is reliably suitable for all requirements.

Reliable and highly cost-effective parts transport.

The Schuler Mono Beam is used for semi-hot and hot forming. The encapsulated transfer system is highly reliable and suitable for all requirements thanks to its robustness. Parts handling works with hydraulic active grippers – guaranteeing highly cost-efficient parts transport.

The Mono Beam withstands the roughest conditions and processes large volumes and heavy parts. Thanks to the reduction to the essential components, the transfer process remains uncomplicated, reliable and economical.

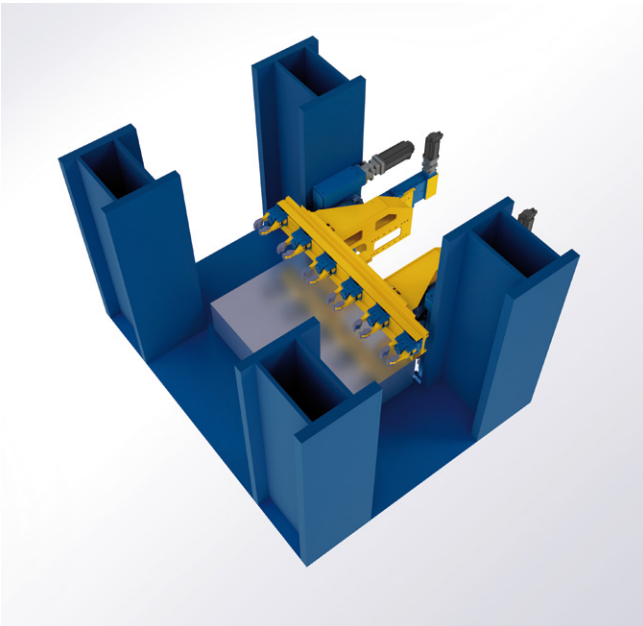


Ideally suited, also for rough conditions in solid forming.

The two drive units are excellently protected against damage from the rough environmental conditions arising during forming by forging and guarantee maximum availability. This transfer unit that can be used in both cold and hot forming. The handling of massive parts is achieved with just one transfer rail and active hydraulic grippers.

Due to the high reliability and reduced number of components, Mono Beam is particularly economical to operate. The die change also takes place without removing the transfer rails, which simplifies the process and enables uncomplicated maintenance.

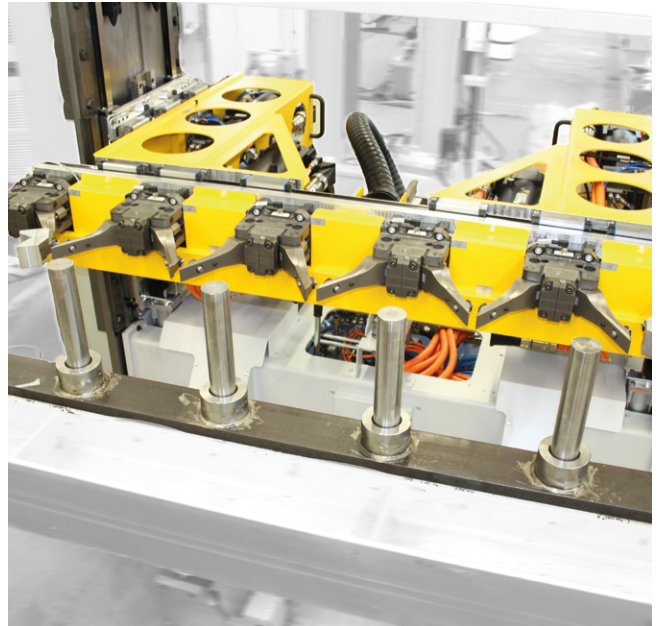
TRANSFER SYSTEMS – COMPACT MONO BEAM. THE COMPACT ONE FOR COLD FORMING.



The Compact Mono Beam is characterized by its compact design.

High production rates, maximum precision. Developed for parts transfer in cold forming, the Schuler Compact Mono Beam offers a number of advantages. It has a very compact design and can therefore be used to save space even in confined spaces. The parts are transported via parts handling with hydraulic active grippers, which ensure high production rates at all times.

With two drive units positioned between the press uprights on the infeed and discharge sides and a carriage for the feed movement, Compact Mono Beam is the most compact Schuler transfer system variant. Thanks to high rigidity and a low weight, high production rates are possible.

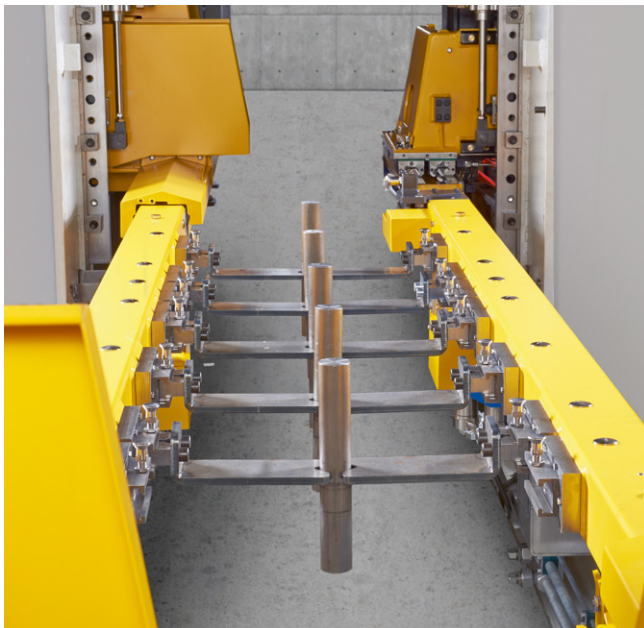


Powerful active grippers for particularly safe part transport.

The parts transport is carried out using hydraulically driven active grippers, whereby both high production rates and maximum precision are achieved.

The compact and streamlined structure simplifies the planning of the feed and discharge of the parts. As a result, high production rates can be implemented. The modular construction and easy die change simplify operation: the transfer rails do not have to be removed for this purpose.

TRANSFER SYSTEMS – DOUBLE BEAM. THE EFFICIENT ALL-ROUNDER FOR ALL APPLICATIONS.



The Double Beam ensures high production rates and is available as a standard or encapsulated version.

Highly efficient parts transfer. The Schuler Double Beam stands for highly efficient parts transfer, whether for cold, semi-hot or hot forming. Available in two versions, as standard or encapsulated, the Schuler Double Beam impresses with its high production rates. Parts handling is carried out with passive grippers.

Four clamping boxes and high-quality protection against damage from the rough environmental conditions arising during forming by forging guarantee maximum reliability and production throughput: heat, lubricants or coolants have no adverse effects on rails or clamping boxes.



The Double Beam is suitable for a wide range of parts.

Parts transport and the clamping of the components are implemented using two transfer rails, whereby parts handling is executed using passive grippers. The die change procedure is particularly easy due to the large stroke: the transfer rails do not have to be removed for individual die changes.

The compact and streamlined structure simplifies the planning of the feed and discharge of the parts. Thanks to the protective devices and use of stainless steel, the maintenance effort is reduced to a minimum. Maximum production rate due to transfer rails with four-point bearings and Schuler AVD. The modular construction and easy die change simplify operation.

DIGITAL SOLUTIONS. DIGITALIZATION IN THE PRESS SHOP.



Digitize your press shop with Metris Digital Solutions and boost your output.

TAP INTO THE BENEFITS OF DIGITALIZATION.

Have you ever wondered how you can use digitalization to boost the productivity of your press shop? As a leading supplier in the field of metal forming, we want to help you increase your efficiency and boost the productivity of your presses.

With its Digital Solutions, Schuler offers you new opportunities to boost the productivity of your press shop:

- Set up dies easier than ever
- Monitor production systems
- Track parts from start to finish
- Protect dies, prevent damage
- Get immediate assistance from experts
- Put your system to the ultimate test.

Embark on the path to digitalization with Metris. Reliable, uncomplicated, and customized to your individual needs.

digital@schulergroup.com



<https://digitalsuite.schulergroup.com/en/>

WHEN BUSINESS AS USUAL BECOMES TOTAL SATISFACTION.

THE SERVICE IN METAL FORMING TECHNOLOGY



Do you need quick help with your system?
You can count on our **24/7 Hotline & Remote Support** – wherever and whenever you need it.



Thanks to our worldwide service centers, our experienced **Field Service** specialists can be on-site in no time at all to solve any problem.



And if one of the components of your system ever fails, we can quickly and easily help you with a suitable **spare part** and thereby minimized expensive system downtimes.



Would you like future-proof systems, with efficiency and performance like on the first day and also fit for Industry 4.0? Whether it be a press from Schuler or a third-party manufacturer, with our **overhaul and modernization solutions** you can make your system ready for the future now.



So you can remain flexible at all times in production, around 400 **used presses** – mechanical and hydraulic presses from a wide variety of manufacturers – can be delivered quickly.



Increase the efficiency of your systems in the press shop with our **Digital Solutions**, from camera-assisted die monitoring to digital fault cause identification right through to the smart use of machine data – find out, based on real-life examples, how digital solutions are easy to retrofit and will really prove their worth in your press shop too.



We support you in achieving your financial and ecological goals. Save energy costs and improve your CO₂ footprint by retrofitting the Eco-Form package and the **Energy Monitor**.



SERVICE
MADE
FOR YOU



Learn more and visit the Schuler Service website:
service.schulergroup.com

SERVICE MADE FOR YOU

**WE REDEFINE SERVICE.
MADE FOR YOU!**

**DISCOVER NOW HOW THE NEW SCHULER
SERVICE CAN BENEFIT YOU.**

Service – Made for you stands for service that is precisely tailored to your needs. Regardless of what type of press or system you work with.

Fast. Competent. Reliable.

ABOUT THE SCHULER GROUP – WWW.SCHULERGROUP.COM

Schuler offers customized cutting-edge technology in all areas of forming – from the networked press to press shop planning. In addition to presses, our products include automation, dies, process know-how and service for the entire metalworking industry. Within the Metris platform by ANDRITZ, Schuler brings together digital solutions for networking forming technology and develops them continuously to further improve line productivity and availability. For battery production in gigafactories, Schuler provides equipment and services in the process steps of cell assembly and formation. Our customers include automotive manufacturers and suppliers, as well as companies in the forging, household appliance and electrical industries. Presses from the Schuler Group mint coins for more than 180 countries. Founded in 1839 at our headquarters in Göppingen, Germany, Schuler has approx. 5,000 employees at production sites in Europe, China and the Americas, as well as service companies in more than 40 countries. The company is part of the international technology group ANDRITZ.

Schuler Pressen GmbH

Louis-Schuler-Straße 1

91093 Heßdorf

Germany

Phone Sales +49 91 35 715-317

Phone Service +49 7161 66-660

Fax +49 91 35 715-109

info.automation@schulergroup.com

www.schulergroup.com/automation



www.schulergroup.com/
automation

