

Press lines and blanking systems with ServoDirect Technology





SCHULER

Five-station press line with ServoDirect Technology. Everything at a glance:

Press forces: Press 1: 25,000 kN (2,750 US tons) | Press 2, 3 and 5: 18,000 kN (2,000 US tons) |
Press 4: 12,000 kN (1,320 US tons)

Drive: ServoDirect drive with highly dynamic torque motors

Bed side (l × w): 4,600 × 2,400 mm (180 × 95 inch)

Output performance: Max. 17 strokes per minute

Transfer step of Crossbar Feeder: 5,200 mm (205 inch)

Die and tooling change: In three minutes

Blankloader: Destacking by Crossbar Robots, re-oiler and optical centering station

Loading press 1 and parts transport: Crossbar Feeder

End-of-line: Crossbar Feeder, shuttle, robots, transport belts



THE FUTURE IN THE PRESS SHOP

Fast, compact and flexible

Schuler has opened a new chapter in the history of metalforming with the startup of the first fully automated press lines using ServoDirect Technology. Equipped with a Schuler blank loader, Crossbar Feeder and end-of-line system, the new servo press lines offer maximum flexibility, high output and short die/tooling change times. They use the advantages of this innovative drive technology. The slide movements of all presses can be individually adapted for each part according to the forming process, the dies and the transport of the parts. This results in higher output levels with identical processes, for anything from single and double to quadruple parts in steel and aluminum, as well as components made from high-strength materials.

The combination of high output, short die change times and maximum flexibility sees Schuler making a decisive contribution to reducing part unit costs, and therefore to the productivity of press shops.



The Schuler Crossbar Feeder ensures safe and rapid transport of parts from die to die.



Servo press lines are designed for processing sheet metal, aluminum and high-strength materials.



Six-station press line with ServoDirect Technology and Crossbar Feeder automation. The maximum output rate is 17 strokes per minute.



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From the blank to the finished part at high speed

1 | Destacking

Two Schuler Crossbar Robots are destacking the blanks and place them safely on a transport belt. This is followed by the re-oiling unit.



2 | Optical centering station – position detection

The optical centering device uses a camera to establish the precise position of the blanks on the belt, and sends this information to the two robots.



7 | Master control desk



At the master control desk, the operator has an overview and full control of the production process from destacking of the blanks to placing the finished parts on the transport belts.

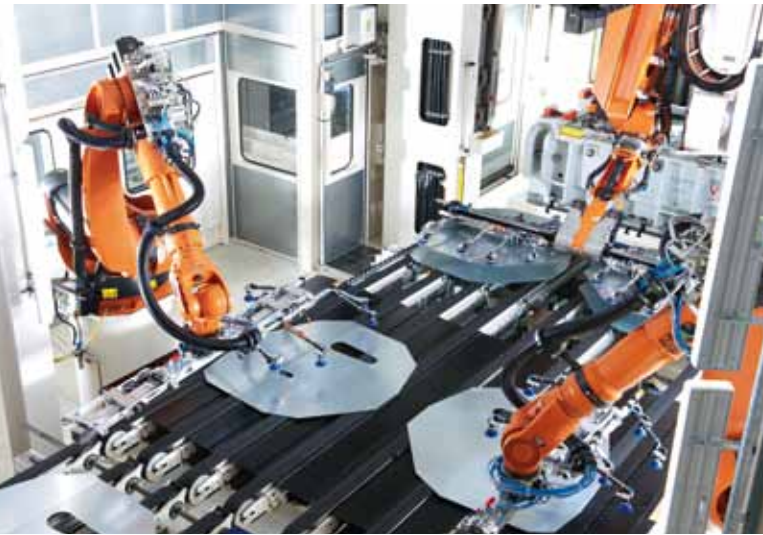
8 | Finished part removal



Following the last press station, a Crossbar Feeder places the finished parts – whether single, double or quadruple parts – on a shuttle.

3 | Optical centering station – positioning

Before press 1 is loaded by the first Crossbar Feeder, two robots move the blanks into the precise position in the optical centering station.



4 | Loading press 1

Once the parts have been centered, the Crossbar Feeder picks up the blanks and places them in the die of the first press of the press line with ServoDirect Technology.



9 | Shuttle for finished parts



The shuttle provides the finished parts to two robots. These place the parts on the transport belts.

10 | Finished part placement



Robots place the finished components on two transport belts.

5 | Torque motors on the press crown

Highly dynamic torque motors on the crown are used for driving the presses. They permit an extremely high level of flexibility, because the ram movements are now freely programmable.



6 | Schuler Crossbar Feeder

Crossbar Feeders transport the parts quickly and safely from press to press. The Crossbar Feeder offers seven degrees of motion freedom and increases the line and process efficiency.



11 | Racking of parts



Following the quality check by press shop workers, they stack the components in transport racks.

12 | Parts store



Servo press lines are designed for processing sheet metal, aluminum and high-strength materials.

ADVANTAGES AT A GLANCE

- Output rates of max. 17 strokes per minute
- High level of flexibility
- Reduction of part unit costs
- Ram movement freely programmable
- Optimum adaptation to various forming processes
- Automation with the latest generation blank loader and Crossbar Feeder
- Compact design of the entire press line
- Fully automatic die and tooling change in three minutes
- Only one set of tooling for each press gap
- Die tryout possible with manual dial function
- Energy accumulator for high efficiency
- User-friendly user interfaces
- Ergonomic end-of-line system
- Easy-to-maintain technology, because the flywheel, clutch and brake have been omitted

Fully automatic die and tooling change in three minutes. The new dies and toolings are prepared outside the press line.



The manual dial function provides the user with new options such as sensitive tryout of the dies.

Blanking lines with ServoDirect Technology

Schuler blanking lines offer the complete process sequence – from the coil to the stack of blanks – from a single source. Their modular structure permits solutions that are individually tailored to the user. All the components of the line have been tested in practical operations, are precisely adapted to one another and guarantee the highest levels of availability and reliability.

Using ServoDirect Technology makes it possible to adapt the movement sequences of the blanking slide in the blanking press individually to the various blanking dies. As a result, the blanking lines are configured for flexible processing of highly varying material strengths or materials such as aluminum or high-strength steels. Materials with sensitive surfaces can also be processed carefully using this technology, and with the highest possible output.

A high level of automation ensures quick production changes and a smooth production process.

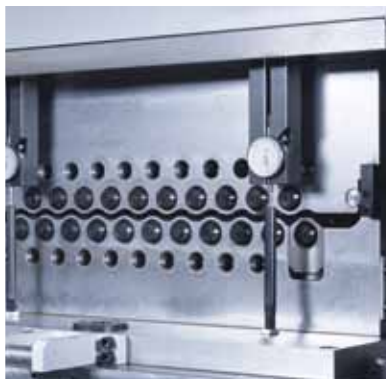
1 | Pre-cropping station



2 | Surface drying



3 | Straightener



4 | Loop pit



5 | Roll feed



6 | Separating shear



7 | Master control desk



8 | Blanking press with ServoDirect Technology





More. Service from Schuler.

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- Preventive maintenance
- Energy checks
- Teleservice
- Overhaul
- Machine relocation
- Machine installations

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- Modernization
- Die and process technology

Training

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- Production start-up support

Used equipment



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SCHULER PRESSEN GMBH

Bahnhofstr. 41 | 73033 Göppingen | Germany

Phone +49 7161 66-756 | Fax +49 7161 66-623

info@schulergroup.com | www.schulergroup.com