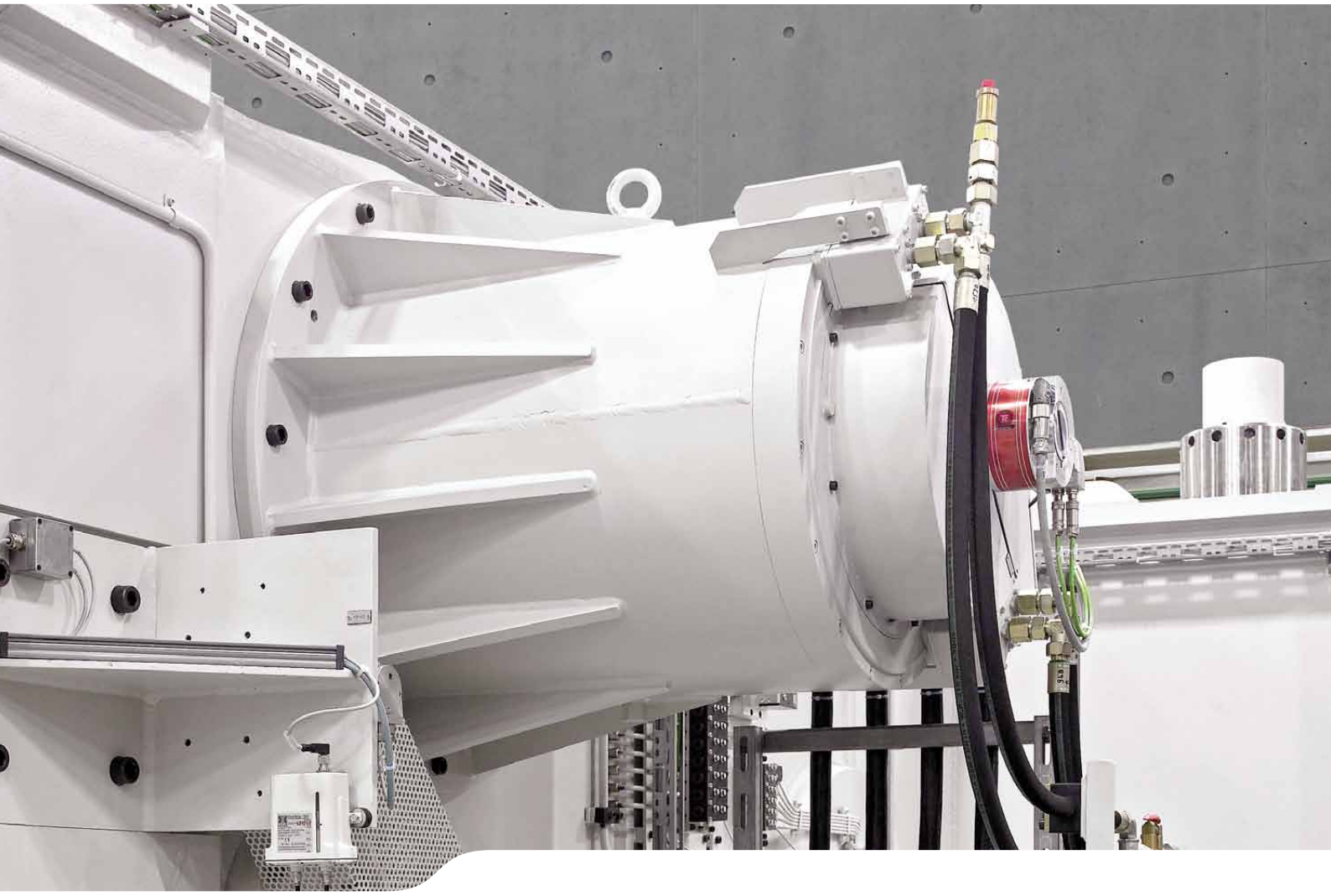


FORGING WITH SERVODIRECT TECHNOLOGY

SCHULER

Member of the ANDRITZ GROUP

FAST, WITH HIGH-PERFORMANCE AND REDUCED STRAIN ON DIES.

PRESSES WITH SERVODIRECT TECHNOLOGY.

Automated presses have been used in forging since the 1960s with various drive concepts. Presses with Servo-Direct technology have been used successfully for several years in sheet metalforming. Now this technology is also being used in forging.

ServoDirect technology means that the former frequency-controlled 3-phase motor with constant speed is replaced by flexible torque servomotors. The machines do not have a flywheel, and there is no clutch and brake either. The main advantage of servo drive technology is that the slide kinematics are freely programmable. At the same time, higher productivity levels are possible compared to conventional presses.

The advantages:

- High efficiency with optimum productivity levels
- Best component quality even with complex parts
- Great flexibility due to adaptable slide movements
- Best energy efficiency compared to conventional presses
- Maximum process reliability

Schuler forging. System solutions from Schuler offer customers all over the world a decisive quality advantage in all temperature ranges:

- Systems for hot forging
- Systems for warm forging
- Systems for cold forging

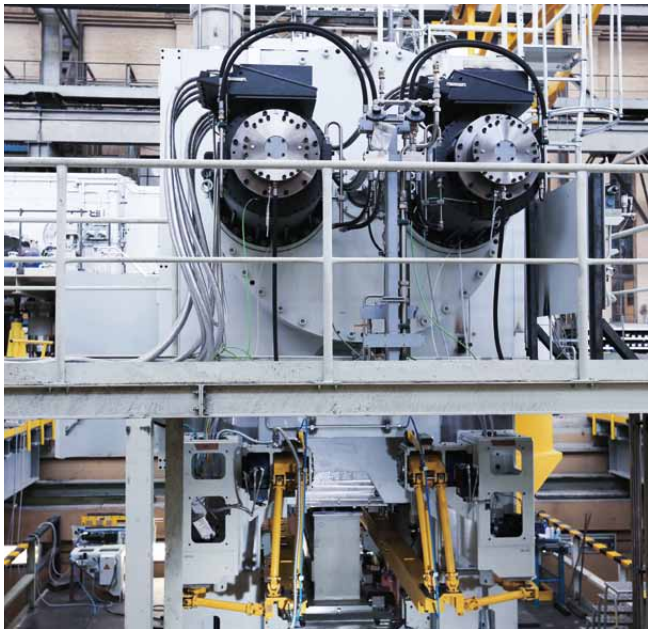
SDT
ServoDirect Technology

SERVODIRECT TECHNOLOGY ALLOWS FOR FORMING OF A WIDE RANGE OF COMPONENTS

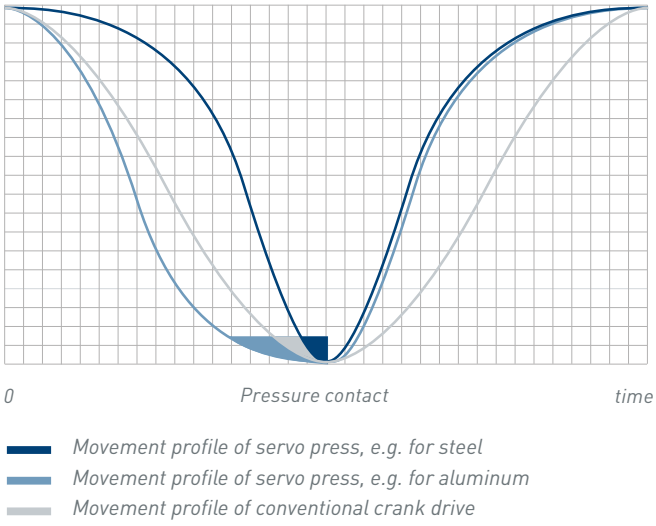



HOT AND FAST.
CRANK PRESSES WITH SERVODIRECT TECHNOLOGY FOR HOT FORGING.

Machines for hot forging



Installation a crank press with ServoDirect technology.



ServoDirect technology allows the slide motion to be programmed individually.

Direct drive. In crank presses with ServoDirect technology, several torque motors act on a main shaft via a step-down gear unit. These types of presses are suitable for single-stroke operation as well as forging in continuous operation. The stroke rate and forging speed can be optimally adapted to the part. Production output levels are increased by shorter pressure contact times and a corresponding lower heat input into the dies.

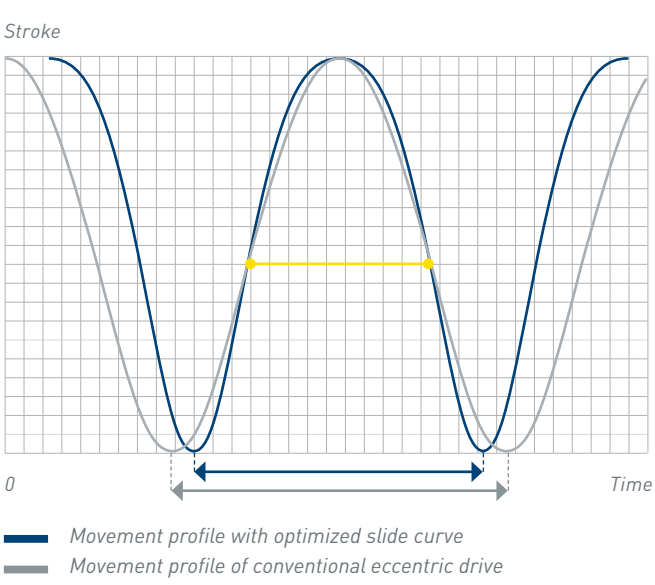
The advantages:

- Rigid configuration with triple bearings for the crankshaft
- Short pressure contact times and low heat input
- Wear-free single-stroke operation is possible
- Immediate access to the die installation space, for example in tryout mode
- Station to station part handling with minimal speed

LONG STROKE.
PRESSES WITH SERVODIRECT TECHNOLOGY FOR COLD AND WARM FORGING.

Machines for cold and warm forging

Servo press with knuckle joint or eccentric drive.



Increased output with the same transport window due to modularization of the slide curve.

Flexible production system. This type of press is particularly suitable for components with an elongated shape, which have a high energy requirement due to their long forging travel. The combination of knuckle joint or eccentric drive and ServoDirect technology permits increased productivity levels, because the slide kinematics can be optimally adapted to the automation.

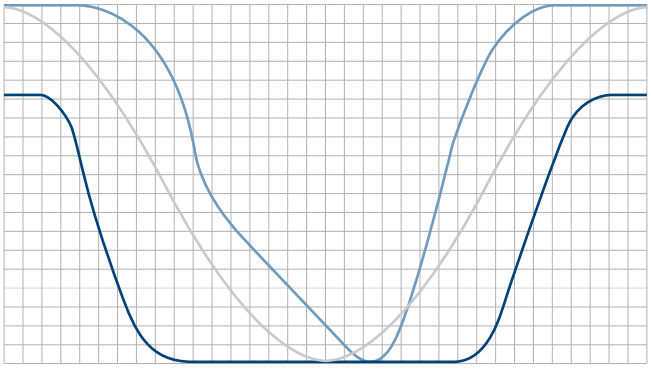
The advantages:

- Knuckle joint or eccentric drive with servomotors
- Long stroke
- Time-optimized handling for long parts
- Start/stop operation now possible
- Setting up dies with reduced speed

FORGING ON TWO LEVELS.
UPSETTER WITH SERVODIRECT TECHNOLOGY.

Machines for hot forging

Upsetter with ServoDirect technology in production.



ServoDirect technology allows the clamping and upsetting movements to be programmed individually.

Maximum production output. The upsetter with ServoDirect technology permits maximum production output and makes it possible to optimize forging parameters for the material in the forging process. The upsetter is operated with two separate servomotors. At the same time, the movements of the clamping and upsetting slide can be set independently from one another. This offers the advantage of adapting the movement kinematics flexibly to the forging process. Furthermore, the shortest pressure contact times can be achieved in the clamping and upsetting work sequence.

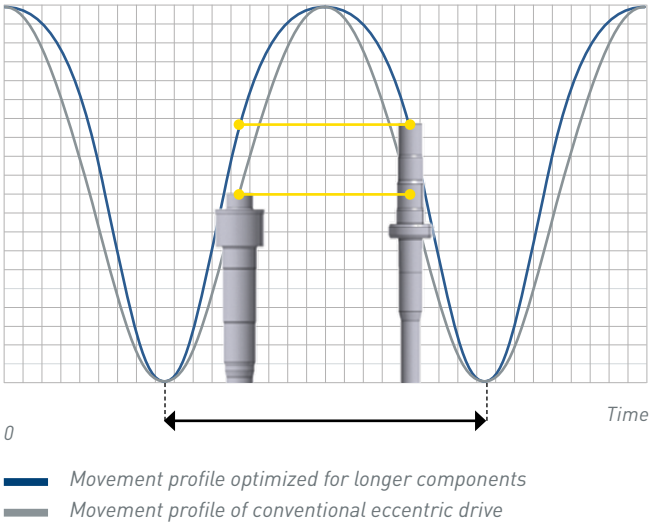
The advantages:

- Independent movements of the clamping slide and the upsetting slide due to two servo drives
- High output performance
- Double overload protection with force and torque limitation
- Energy efficiency due to current consumption at different times
- Complex components

WIRE FORGING.
FORMMASTER WITH SERVODIRECT TECHNOLOGY.

Machines for cold forging

Installation of a FormMaster with ServoDirect technology.



Forging of lengthy components with the same slide stroke by optimizing the slide curve.

Optimum production conditions. The servo drive enables the slide movement of the FormMaster horizontal wire forger to be specifically influenced. Even with an extremely varied range of parts, it's possible to adapt the kinematics optimally to the requirements of the forging process. Whether it comes to achieving optimum conditions for part transport with long parts, or setting an optimum forging speed that is favorable with regard to die wear and parts quality with critical extruded parts: all this can be done even with high production stroke rates.

The advantages:

- Optimum ergonomic working position
- Very good visibility of the die space
- Reliable NC transfer with adjustable transport parameters
- Adapted forging speed for critical forgings
- Optimum clearance for long forgings
- Servo wire feed for high flexibility and accuracy

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PARTNERSHIP
PRODUCTIVITY
SAFETY
FUTURE

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