# Innovative solutions in stamping and forming technology!

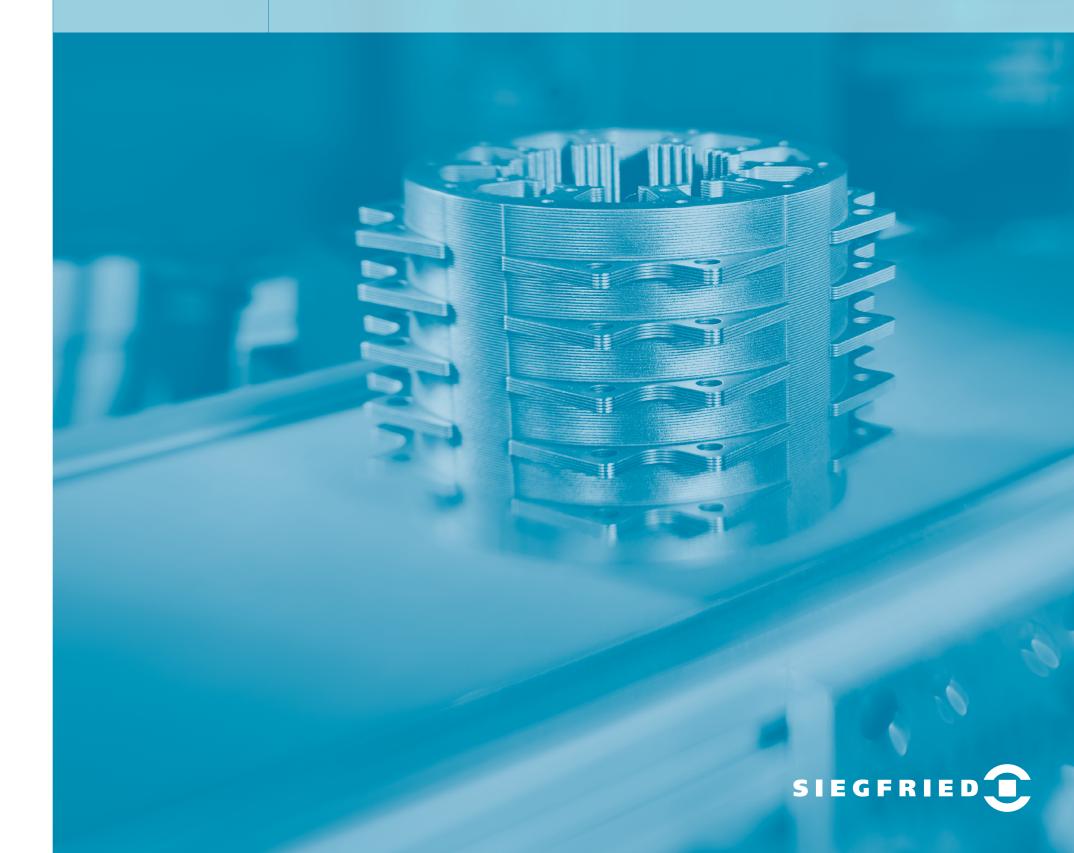
### **Progress is called Siegfried**

For over 50 years now, Siegfried AG has been supplying the stamping industry with controlling, monitoring, sensor and oiling systems, in short: with components required for economic and efficient production.

Due to our extensive experience in stamping and forming technology, we are readily able to provide you with solutions, perfectly tailored to your needs. Our products result from intensive collaboration with our customers. We are at home in the world of stamping technology and, due to our innovative solutions, we have built ourselves an excellent reputation throughout Europe. Your problem is our challenge! You will discover that we are a business partner who speaks your language, understands your problems, and – above all – who will find the best solution for you.

Complete stacking solutions

**Planning, Software, Hardware, Service** 







## **Stacking solutions from Siegfried**

#### **Powerful**



Free choice and unlimited possibilities for designing stacks



Large selection of functions specifically developed for stacking



Reliable strip thickness measurement and state-of-the-art servo drives

### **User-friendly**



Simple and intuitive programming of stacks



Automatic control of stacking height and rotation speed



Full integration of monitoring and control functions

### Sustainable



Years of experience in planning and developing stacking solutions



Extensive and proven service capabilities, both remote and on-site



High spare parts availability, stock levels of 15,000+ different items

### **Project process**

#### **Project initiation**

Definition of the basic requirements of the finished stack and exchange of initial ideas for the implementation of the manufacturing process.

#### **Detailed clarification of requirements**

In-depth discussions to ensure a complete and correct understanding of the customer's requirements.

#### **Feasibility studies**

Assessment of feasibility, taking into account the capabilities of the customer, toolmaker and press manufacturer. Initial creation of a preliminary manufacturing concept.

#### **Conceptual design**

Professional design of the slides and drives and definition of the interfaces to the monitoring system. Completion of a concept for the most efficient and smooth operation possible.

## Construction of control cabinet and monitoring units

Assembly of the customer-specific versions of the control cabinet, the strip thickness measuring device and the monitoring devices.

#### Start of series production

Commissioning of the production line after successful completion of all quality tests and training courses.

### **Production support**

Our technical experts provide you with active support and a wealth of expertise in the continuous optimisation of your production processes.

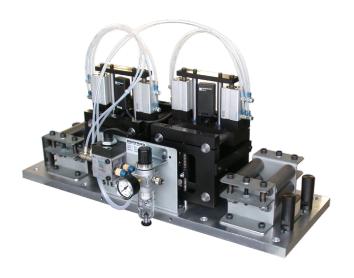




## Well-proven strip thickness measurement system

#### **Practical design**

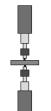
Robust and field-tested strip thickness measurement system for reliable coverage of the various measurement requirements in stack production. The stable construction, tactile measuring probes and a multitude of intelligent details guarantee reliable recording of relevant measurement data even under the most demanding conditions.



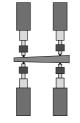
#### Innovative measurement and control technology

The ability to freely arrange measuring probes and operate multiple measuring channels allows for precise measurements and flawless process control. In conjunction with our advanced software solution, any wedge shape can be detected and automatically compensated and corrected during stacking. Examples of possible probe arrangements for single, differential, mean value or wedge shape measurements:









#### 1 to 16 stacking channels

1 to 50 stacking stages per channel

1 to 40 sliders

0 to 8 measuring channels

0 to 8 servo motors

## Powerful control

#### Perfect monitoring and control of stacking processes

The Siegfried press processors, which have been perfected in many years of collaboration with our customers and proven thousands of times over, are extremely easy and convenient to use and feature innovative technologies for optimising stacking processes.



#### **Paketsteuerung**

zur freien Programmierung beliebiger Pakete und Stufen.

#### Stacking control

for free programming of any stacks and stages.

#### Measurement and monitoring

of any analogue and digital measured variables.

#### Strip thickness measurement

for precise monitoring of strip thickness and control of stacking height.

#### Motor control

for servo and linear motors with state-of-the-art drive technology.

#### Slider control

with many functions and any position monitoring.

#### Automatic stacking height correction

via external or internal measuring and control circuits.

#### Automatic rotational speed correction

via external or internal measuring and control circuits.

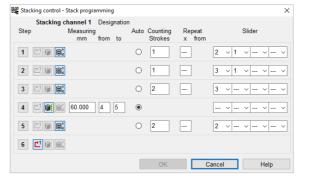
#### Stack clearing

with special control sequences for controlled clearing of stacks.

#### **Data acquisition**

and statistical evaluations for every requirement.

## Intuitive software solutions

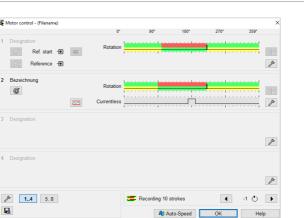


## Application examples

#### Stacking/sequence control

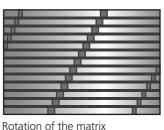
Intuitive programming of any stacks. Counting and/or measuring of individual sheets for stacking height. Servomotor travel specification. Auto stacking start at belt end.





#### Servomotor control

Tool-dependent rotation of the matrices directly from the stacking/ sequence control, auto speed function.



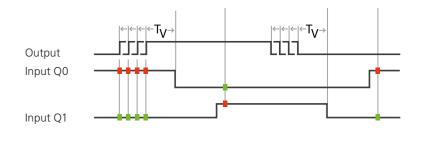


by X° per stroke.

compensate for wedge shape.

#### Slider control

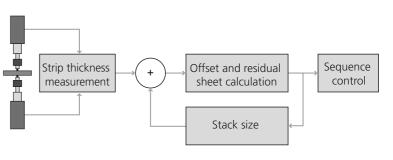
Slider control with pilot control function and monitoring of the forward and/or end position.





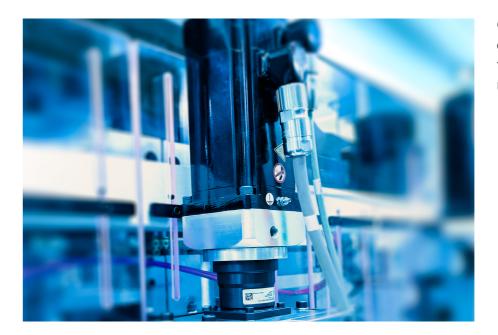
#### Measuring and monitoring strip thicknesses

Measuring strip thickness for calculating stacking height or stacking level, adjustable tolerance limits, automatic calibration.

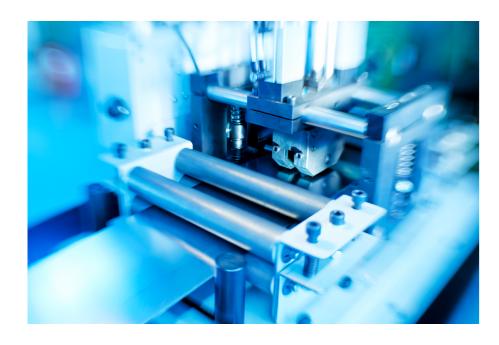


## 40+ years of experience in planning and developing stacking solutions

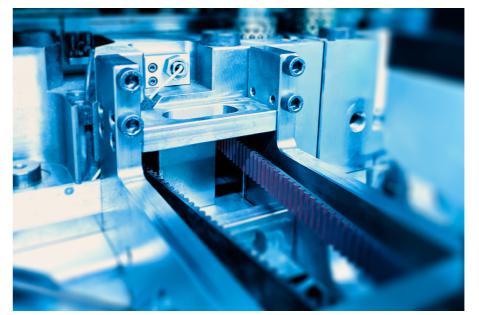
Thanks to our decades of experience in stacking, we are able to support our customers with expertise that has grown over many years and a proven and ready-to-use portfolio of software and hardware solutions. Siegfried is at your side from A to Z, starting with the discussion of initial ideas and continuing through to the continuous optimisation of your stacking systems.



Control of **servo motors** with different power levels. The **auto-tuning** function automatically reads and parameterises the servo axis.



Measurement of **strip thickness** with transfer of measured values to the stacking control system to ensure precise stacking height and for **statistical evaluation** of material thickness.



Drive system with toothed belt from the servo motor to the tool for **precise** positioning of the die, even at high press stroke rates.



**Coordinated and precise control** of the slides installed in the stacking tool with **integrated position monitoring** for the forward and/or end position of the slides.



Various **digital and analogue tool protection functions** provide additional process security and are integrated directly into the stacking control system.