



Steinbeis
Qualitätssicherung und
Bildverarbeitung GmbH

SpringTest

Online quality control reduces the costs in spring production

Springs are an extremely frequently required quality product. There are about 8000 springs in a car alone. The quality and dimensional accuracy of springs during their production are therefore of great importance. Costs for scrap and rework can be significantly reduced in spring production with the SpringTest image processing system.

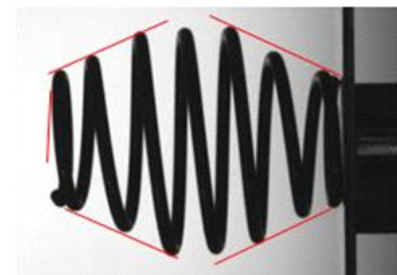
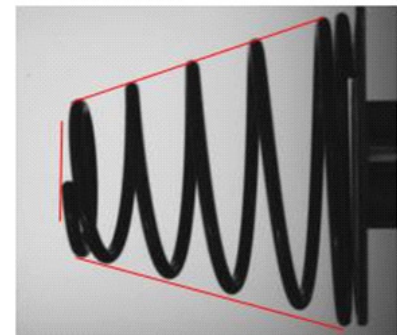
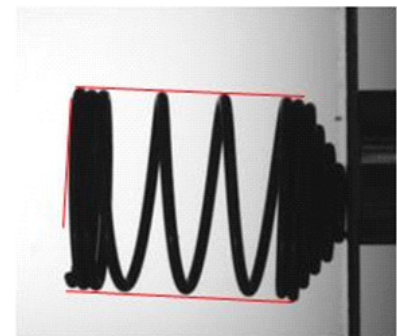
The goal in spring production is to produce springs in target quality, to continuously control the production process and to constantly improve product quality. SpringTest can be integrated directly into a spring coiling machine as an online quality control loop.

The SpringTest software performs the comparison with the target value and the tolerance and regulates the manufacturing process via the machine control.

Very high quality demands are placed on springs, among other things with regard to compliance with the geometry. Therefore, modern spring coiling machines can be equipped with a SpringTest image processing system for an online 100% inspection of the spring geometry. The associated SpringTest image processing software is designed to be very user-friendly.

SpringTest can test cylindrical springs (tension/compression), single conical springs and double conical springs.

With automatic test plans, the geometric quality characteristics length and diameter are measured online.



Automatic detection of different spring types with camera



Steinbeis
Qualitätssicherung und
Bildverarbeitung GmbH

Werner-von-Siemens-Straße 9
98693 Ilmenau / Germany

Phone +49 (0) 36 77 · 46 90 59 0
 Telefax +49 (0) 36 77 · 46 90 59 11

E-Mail info@sqb-ilmenau.de
 Internet www.sqb-ilmenau.de

Contact

Dipl.-Ing. Steffen Lübbecke
 Phone +49 (0) 36 77 · 46 90 59 10
 E-Mail steffen.luebbecke@sqb-ilmenau.de

Prof. Dr. Gerhard Linß
 Phone +49 (0) 171 · 51 23 758
 E-Mail gerhard.linss@sqb-ilmenau.de

Online quality control in the machine

Of particular importance in the SpringTest online quality control loop of a spring coiling machine is the measuring element camera with lens and filter. It must be able to measure the quality (length, diameter) of each spring produced in the process online during the production cycle.

SpringTest software

The SpringTest testing software realises the automatic tracking of the measuring points when the spring is displaced in the image.

Test performance

SpringTest can measure, control and sort up to 900 produced springs/minute.

The integrated illumination system FlashControl, with its very short flash durations in the microsecond range and synchronisation with the image acquisition, enables very sharp images for highly accurate measurements.

Proven in practice

SpringTest has proven itself many times in practical use and can also be transferred to other components. For example, it can also be used to optically inspect nails, screws and wire-bent parts.

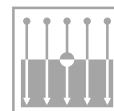
On request, we can integrate Spring-Test into your spring coiling machine.



Oscillating spring in the machine with automatic tracking of the measuring points



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Development Research



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