

SIKORA EXTRA

Hose and Tube Magazine



SIKORA devices in their
white design

SIKORA EXTRA
Issue #3/2016
www.sikora.net

**Special Topic:
Success Story**
Successful cooperation with WRW

S. 4

SIKORA Website Features
Variants of the X-RAY 6000
SIKORA introduces new CRM system

S. 7
S. 11
S. 14

SCORE WITH PRECISION.

Impressum/Publisher

Herausgeber/Publisher
SIKORA AG, BREMEN

Anschrift der Redaktion/Editor's Office
SIKORA AG, Bruchweide 2, 28307 Bremen,
Deutschland/Germany
Tel./Phone: +49 421 48900 0
communications@sikora.net, www.sikora.net

Next Events

■ K 2016
19. - 26.10.2016
Düsseldorf, Germany
Hall 10, Booth H 21



Follow us on **Twitter**

www.twitter.com/sikoranet



Follow us via **RSS**

www.sikora.net/de/rss



Dear customers, colleagues and business partners,

This summer was again devoted to football. Similar to the German national team, SIKORA bets on preparation, experience and training as well as the highest precision "Made in Germany". In a football game, you might win titles with this strategy – our clients definitely win a reliable partner and the certainty to always achieve optimal production targets.

Score with precision and optimize your production process with our diverse measuring, control, inspection, analysis and sorting possibilities. Just one of many examples for such a success is the X-RAY 6000 PRO, which has been used for about 10 years at the "Westfälische Rohrwerke" (Westphalian Pipe Mill). Find the answer to the question of why the manufacturer of multi-layer composite tubes says that he values the possibilities of the SIKORA measuring systems for process optimization, increase of product quality and cost savings in our success story.

Stay on the ball, with our extensive service portfolio. Whether through the support of our employees at the headquarters in Bremen, Germany, at the SIKORA offices worldwide or directly at your production site – together, we will always reach the goal.

Contact us now for your individual consulting.

Enjoy reading!

Sincerely,

Dr. Christian Frank
CEO SIKORA AG

Harry Prunk
Executive board SIKORA AG

HIGHER PRODUCTION PERFORMANCE WITH CONSTANT QUALITY

Westfälische Rohrwerke and SIKORA – a successful cooperation

■ For more than a decade the „Westfälische Rohrwerke“ (WRW – Westphalian Pipe Mill), located at Ahlen, Germany, has been working successfully with SIKORA. Nowadays, the company owns six extrusion lines for the manufacturing of overlapped welded multi-layer compound tubes for the construction industry. They have produced 40 million meters of tubes in the last year.

At all WRW lines, important parameters, such as the wall thickness, eccentricity, inner and outer diameter and ovality are determined with the X-ray measuring systems by SIKORA.

There are different methods to manufacture multi-layer tubes with

up to five layers. WRW uses the overlapped welded procedure, where an aluminum tape is formed to a tube and welded. After the tube has been equipped with an adhesion layer, an extruder will apply a PE layer on the inside and the outside of the tube. This production process is, compared to other methods, significantly faster, more flexible and space-saving.

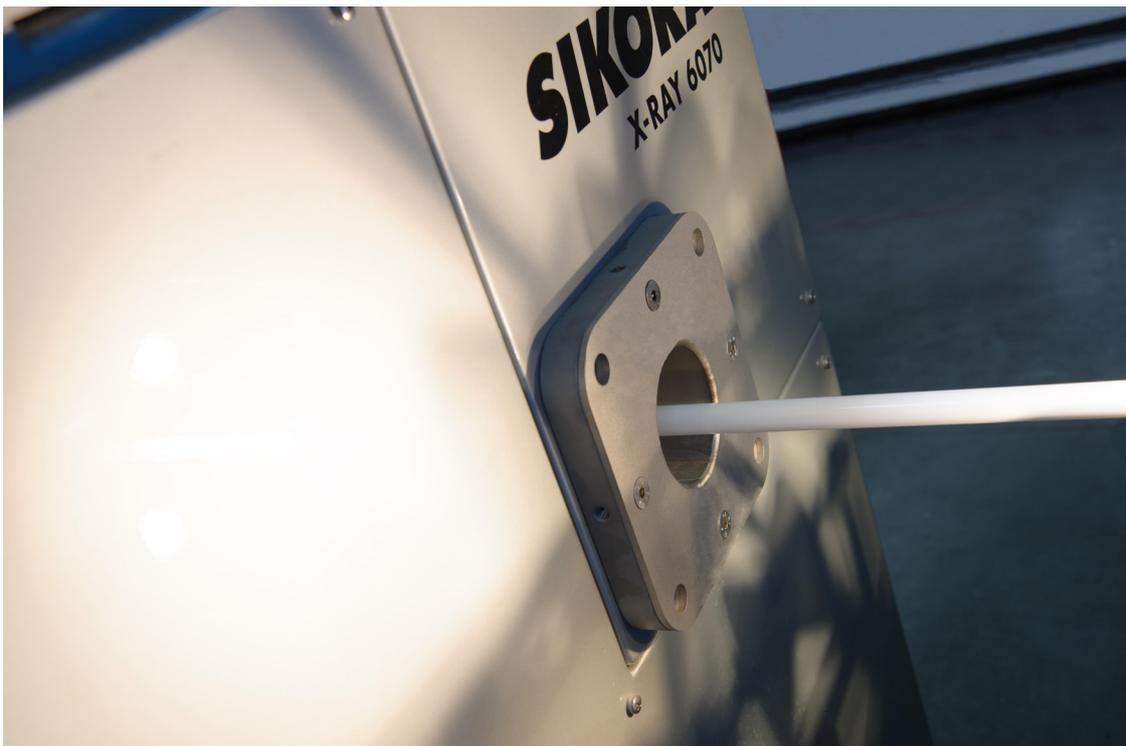
According to Markus Gurtsching, Sales at WRW, customers from the plumbing and heating sector value this especially: “We are able to implement customer wishes fast and flexible – not only with regard to the delivery capability but also with regard to the products.”

Tubes by WRW are manufactured from different PE types with varying di-

ameters, wall thicknesses and lengths. Currently, tube diameters from 11.6 to 110 mm are produced.

“For us, such high complexities and stroke rates of innovative products are only possible because we can measure the PE layers and the aluminum layer inline, that means directly during the manufacturing process”, Eduard Pilarski, one of two managing partners at WRW, points out. “This is the only way to ensure that the quality of the multi-layer compound tubes satisfies the high requirements of our customers.”

The precise and clearly structured measuring values, regarding wall thicknesses, concentricity, diameter and ovality of all material layers, by the SIKORA X-ray measuring systems



SIKORA X-RAY 6070 PRO at the WRW production line

X-RAY 6000 PRO, help to maintain the high quality standard. Therefore, WRW has been using the direct inline measurement since the start of the company in 2004 – at all lines.

Automatic savings

At WRW, all SIKORA X-RAY 6000 PRO devices are used in combination with the display and control device ECOCONTROL 6000 for an automatic control.

“For our production department the biggest advantage is that, with the X-ray devices, we are able to automatically control the line speed or the extruder rpm under consideration of the nominal values”, says Pilarski. “Therefore, we have reduced the production scrap to a minimum.”

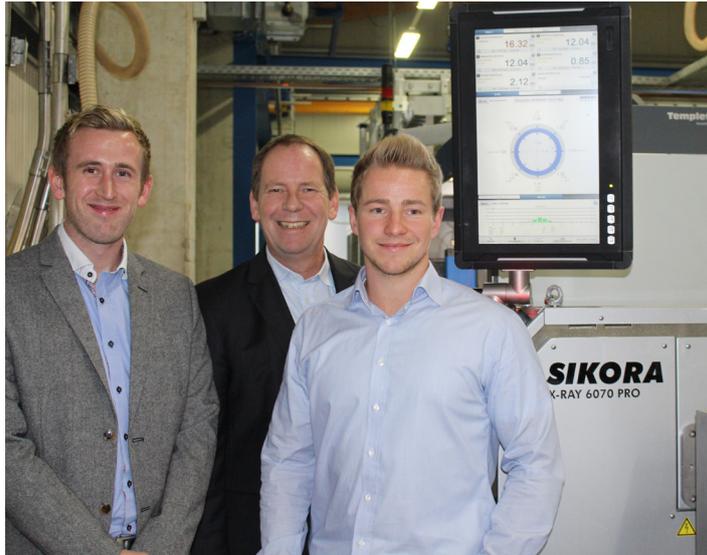
Furthermore, the X-ray measuring devices of the X-RAY 6000 PRO series help to efficiently save material and therefore, costs at the WRW production.

„We were able to reduce the puffer for the wall thickness by about four percent – and still stay within the defined tolerance values”, says Mr. Gurtsching. He demonstrates that they had savings of about 100,000 Euro per year.

More performance with the same quality

Also with regard to the performance, the production lines at WRW had further successes through the usage of the SIKORA measuring and control devices.

“Eventually, the X-ray devices contributed to a performance increase of



Dennis Czapla (WRW), Peter Hügen (SIKORA) and Markus Gurtsching (WRW) at WRW

the lines while the high quality of the products was maintained”, says director Pilarski.

In the meantime, line speeds of 30 to 35 m/min are reached. Compared to former speeds of 20 m/min, this is an enormous increase. This is possible as the SIKORA devices perform constantly ten measurements per second and axis.

Long-standing success

More than 10 years ago, managing director Pilarski had his first contact with the innovative X-ray measuring devices by SIKORA at an exhibition. Back then, he directly opted for a co-operation.

“This first X-ray measuring system is still being used and works as perfectly as on the first day. Therefore, for us it was obvious to trust SIKORA in the following years for each new production line – especially because we are able to provide a detailed documentation of the quality key figures for our customers. Most of the customers value this fact.”

But, WRW is not only convinced by the reliable measuring and control devices. Also, the human approach towards customers as well as the great customer service confirm the decision for cooperation again and again.

“The service engineers are always available – and help us with their great technical know-how to solve our problems either directly over the phone or they will come to us to find a solution on-site”, says Mr. Gurtsching. “This is extremely important for us as we are usually working in a three-shift operation on five or six days a week, sometime even on seven days a week. Downtimes of a production line including the X-ray device cannot be allowed. Therefore, we will opt for measuring devices by SIKORA for future manufacturing processes of our tubes.”

This article was written with the kind support of the K magazine (KZEITUNG) cooperating with Sabine Koll.

SEARCH FOR BARE PATCHES

The SPARK 2000/6000 for the production of tubes

■ For wire and cable production processes, the spark tester by SIKORA is already an established key figure. Now, the SPARK 2000/6000 series also capture the hose and tube market. The devices for the detection of bare patches and pin holes are especially qualified for the production of multi-layer compound tubes with a metallic layer. These are for example used for the plumbing and heating industry but also for the pharmaceutical and food industry. A further application is the segment of shipbuilding and automotive industry where metal braiding is often used.

SIKORA offers different spark testers, based on direct current voltage (SPARK 2000 DC), alternating current voltage (SPARK 2000 BS) or high-frequency high voltage (SPARK 2000 UL respectively SPARK 6000 HF). All reli-

ably detect faults in the extruded outer layer or sticking out wires from the braiding. Thereby, the systems show whether the fault is a pin hole or bare patch.

Energized quality assurance

For inspection/testing, the dry tube runs through the bead chain electrode of the spark tester, which is typically installed after the cooling section. Thereby, the extruded material is exposed to the selected test voltage and faults in the outer layer are reliably detected. The quality management is therefore able to assure that only faultless tubes are delivered. The test voltage is infinitely variable.

SPARK 6000 HF

The SPARK 6000 HF offers a special highlight. According to European standards, openly operated measuring and testing equipment has to be checked regularly. Accordingly, spark

testers are tested with regard to the high-voltage, short-circuit current and function (sensitivity). Usually, a separate external testing device has to be used for such a test. The SIKORA SPARK 6000 HF uniquely offers the optionally integrated 3-step self-test and calibration system. The test module documents the test results and saves them in the log file, which can be retrieved at any time.

Furthermore, the SPARK 6000 HF has an integrated display for information regarding the test voltage, capacitive load and number of breakdowns directly on the device. The display is combined with a control panel to enter the test voltage.

For production lines without a line computer, SIKORA suggests the SPARK 6000 HF in combination with the display and control system REMOTE 2000.



SIKORA WEBSITE

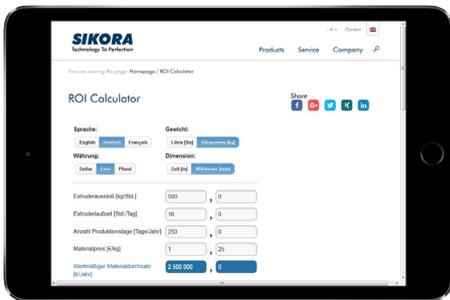
Four features you should know about

■ With the new SIKORA Corporate Identity (CI) and the belonging communication media, SIKORA offers customers even more service and support. Here are four features, to be found on the company website, that make the cooperation as well as the usage of the measuring devices even more effective.

Support and Spare Part Request

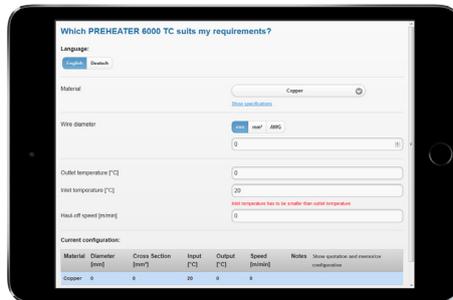
At www.sikora.net/services customers can find an overview of the most important services by SIKORA. Discover how SIKORA supports you at the installation and commissioning, with maintenance and calibration and even trainings. A special highlight is the support and spare part request. Send your support or spare part request directly and easily to the SIKORA service department – at any time.

Simply fill in the form on the webpage and a service engineer will contact you as quickly as possible. Your advantage: Thanks to your input, the SIKORA employee gets prepared before the first contact and is familiar with your data to provide a fast and custom-fit consultation.



ROI Calculator

Investments must pay off. SIKORA measuring and control devices help manufacturers of wires and cables to reduce the material consumption to a minimum and to avoid rejects caused by errors during the production by using real-time measurements. Find out at what point the SIKORA X-RAY 6000/PRO pays itself off in your production line by using the Return On Investment (ROI) calculator at www.sikora.net/roi.



Power Calculator

SIKORA offers three different models of the PREHEATER 6000 TC for the non-contact measurement of the conductor temperature. Calculate which model fits your production line with the power calculator. Enter your specific production data at <https://www.sikora.net/ph-calc2/index.html> or on the PREHEATER 6000 TC product detail page to get your suitable device suggestion.



SIKORA App

With the SIKORA App for the gauge heads of the LASER Series 6000 or the SPARK 6030 HF you are always able to retrieve all important production data (measuring values, trend, statistics, video signals and product position within the measuring area as well as test voltage, number of break-downs and bare patches) in real-time. Download the free iOS or Android version at www.sikora.net/laser6000 or www.sikora.net/spark and connect your smartphone directly to your SIKORA gauge head.

NEWS FROM THE SIKORA CENTERWAVE 6000

The new millimeter wave technology provides an increase of product quality and ensures enormous material and costs savings

■ During the manufacture of plastic tubes with large diameters and wall thicknesses the product quality as well as the reduction of material costs have the highest priority. Norms and standards precisely define the minimum and maximum permissible diameter and wall thicknesses of a tube dimension. In addition, the determination of sagging plays an important role.

Millimeter wave technology for the measurement of large tubes

A precise measurement of big tubes independent from environmental or material influences can be assured by the use of the new CENTERWAVE 6000. Therefore, this system represents a key technology for future-oriented quality assurance during the production of large tubes.

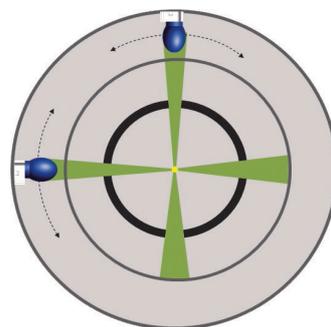
From the runtime difference the product dimensions are defined. Boundary layers, as for example each front and back side of a plastic tube, reflect these radio waves, which are detected and demodulated by the receiver of the regarding transceiver. The received signals contain information regarding the distance between boundary layers of different materials, that means the inner and outer diameter, ovality, wall thicknesses and sagging. After an algorithmic processing of the received signals of each sensor, the requested measuring results are ready for visualization and control of the diverse tube dimensions in real time. A connected processor system provides, in addition to a numeric display of the measuring values, also their graphic representation as well as comprehensive trend and statistical information.



CENTERWAVE 6000:
Includes measurement
of the sagging

In cooperation with the Fraunhofer Research Institute for High-frequency Physics and Radar Technology (FHR) and the South German Institute for Plastics (SKZ) SIKORA has developed a new technology on the basis of millimeter wave technology for non-contact, precise online measurements of inner and outer diameter, ovality, wall thicknesses, and sagging of large plastic tubes with a diameter from 120 to 2,500 mm. Thanks to the innovative concept of the measuring system it adapts itself to the characteristics of the extruded plastics and does not require any calibration by the operator.

The measurement via millimeter wave technology is based on the FMCW runtime method. Several static or rotating transceivers, arranged around the circumference of a tube, continuously send and receive frequency modulated millimeter waves. A complete detection of the wall thickness around the whole circumference of the tube is realized by the rotating gauge head. In this version, the precise definition of the sagging can also be detected. A static system measures the wall thickness and the outer and

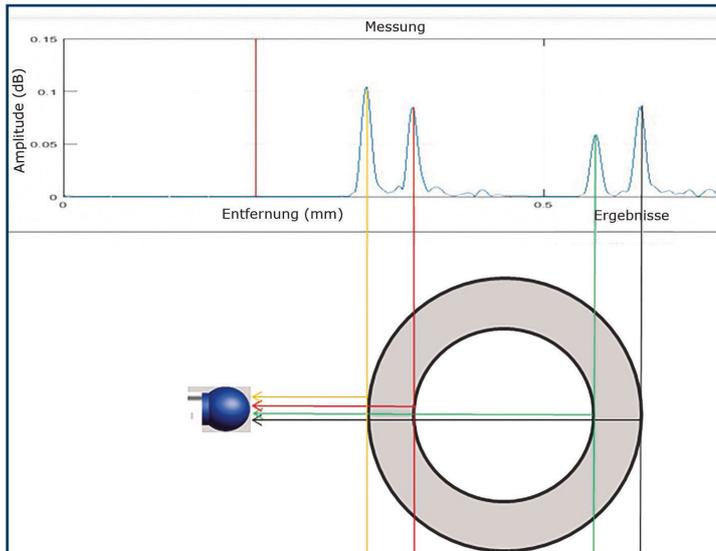


Scheme: Measuring system with rotating sensors

inner diameter selectively at 4 or 8 points around the circumference.

Areas of application of millimeter wave technology

The millimeter wave technology is suitable for the measurement of any kind of plastic tubes with a diameter from 120 to 2,500 mm that are, for example, used for conducting water, gas, chemicals and oil. Particularly interesting is the application for tubes made of all common plastics such as PE, HDPE, PP, PA6, PVC etc. Here the system provides precise measuring values, even for tubes with wall thicknesses of 200 mm.



Video image: Evaluation of the received signals and determination of the tube dimensions

Another area of application is the measurement of single and multi-layer tubes. During the production, there is the risk that the melt that leaves the tube tool, flows down as a result of gravity, and thus negatively influences the tube wall thickness distribution. This so-called sagging is identified by the millimeter wave measuring method. Via a display and control device the machine operator immediately receives information on the production process to take actions.

Due to the high safety risk, especially manufacturers of gas pipes have to guarantee 100% monitoring. By using rotating transceivers, which measure any number of points on the complete circumference of the tube, such a monitoring is not only guaranteed but can also be proven by the detailed measuring report.

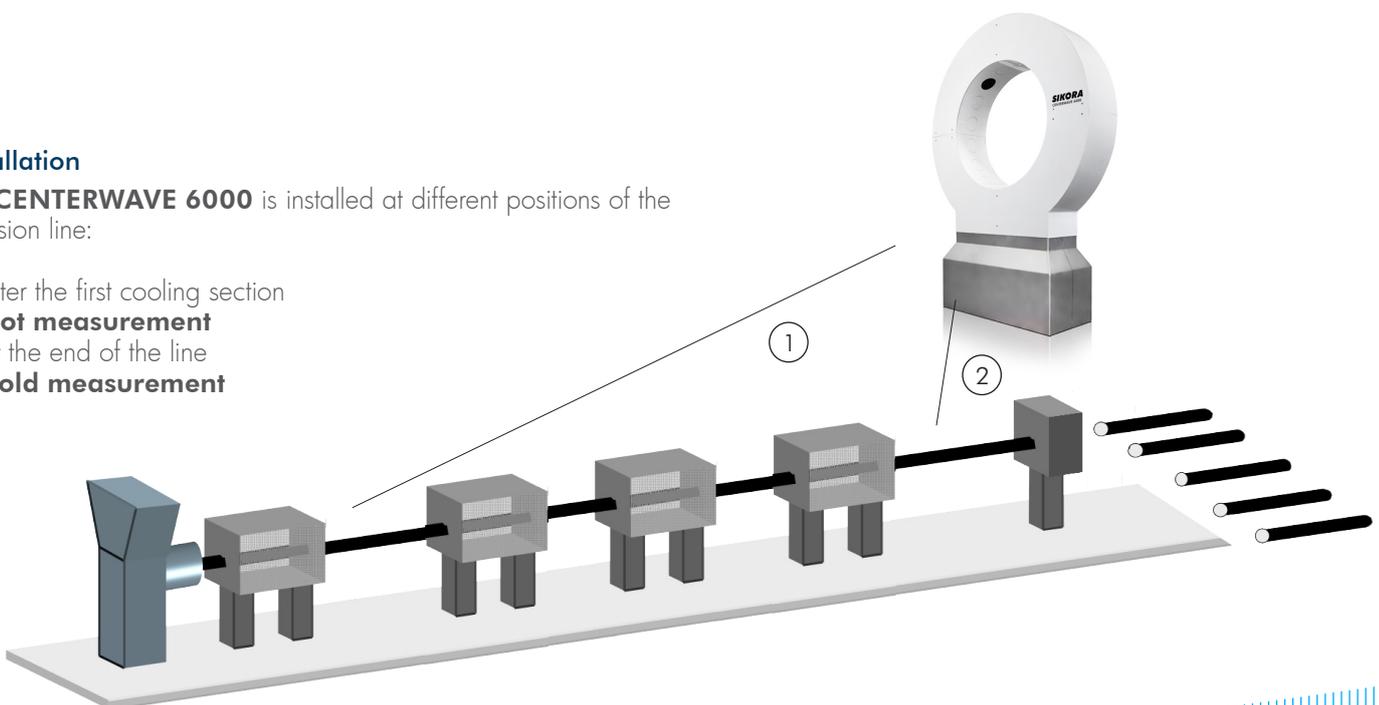
installed between two vacuum tanks. Therefore, the un-cooled section is very short and deformations are ruled out. Furthermore, by installing the gauge head in the production line, faulty settings are recognized early, which is especially important for slow running extrusion lines of large tubes.

As the CENTERWAVE 6000 only needs a space of 300 mm in the production line, the device can easily be

Installation

The **CENTERWAVE 6000** is installed at different positions of the extrusion line:

1. After the first cooling section
Hot measurement
2. At the end of the line
Cold measurement



Quality in its perfect form.

With passion, we develop future-oriented measuring and control devices for quality assurance of hoses and tubes, such as the X-RAY 6000 PRO. An innovative solution with X-ray technology that precisely measures all product parameters, increases product quality and saves costs.

- high-quality products by continuous measurement of the wall thickness, concentricity, the inner and outer diameter and ovality of up to 3 different material layers
- automatic control under consideration of minimum values in combination with powerful processor systems
- repeatable processes



www.sikora.net/xray6000



Visit us from October 19th
26th, 2016 at the K Show
in Düsseldorf.

Hall 10, Booth H21

SIKORA X-RAY 6000 / 6000 PRO

Wide-ranging applications for the highest precision in all lines

■ The six available diameter ranges of the SIKORA X-ray measuring systems X-RAY 6000 and X-RAY 6000 PRO for the exact definition and control of the inner and outer diameter, the wall thickness and concentricity as well as ovality cover all requirements of almost all hose and tube extrusion lines up to 270 mm.

X-RAY 6020 PRO and 6035

For very delicate hoses and tubes with a diameter from 0.65 to 5 mm respectively 5 to 30 mm, SIKORA offers the devices **X-RAY 6020 PRO** and **X-RAY 6035**. For hoses used in the medical industry, the compliance with the specifications is of utmost importance, in order to guarantee the quality requirements of this sensitive area of application.



Standard or PRO

SIKORA X-RAY 6000 X-ray measuring devices for single layer hoses and tubes are available with either an integrated display, while the X-RAY 6000 PRO version is applicable for up to three material layers. The X-RAY 6000 PRO is by default equipped with the display and control device ECOCONTROL 6000, for an automatic control of the line speed or the extruder rpm and therefore, guarantees the compliance with the prescribed specifications. Also, trend recordings and statistical data are available via the ECOCONTROL 6000.



X-RAY 6070, 6070 TRIAX PRO and 6120

Supply pipes, such as heating pipes (composite pipes) and gas pipes are subject to an enormous continuous load and therefore, have on the one hand to meet high quality requirements and standards to ensure the safety, but on the other hand an, economic production is important as well. The **X-RAY 6070** and the **X-RAY 6120** are especially suitable for diameters from 6 to 110 mm. For the quality assurance of compound pipes, the 3-axis measuring system **X-RAY 6070 TRIAX PRO** is recommendable as it measures the diameter and ovality at six points and, at the same time, detects a detachment of the inner pipe from the aluminum barrier.



What does the X-RAY 6000/PRO measure?

The X-ray measuring devices X-RAY 6000 and X-RAY 6000 PRO measure reliably single as well as multi-layer tubes, aluminum composite pipes, pressure tubes with fabric lining, small and large tubes from PR, HDPE, PVC as well as foamed products, hoses from EPDM, nylon, rubber and silicone.

EXTENSIVE SERVICE OFFER

Jörg Hischer and Maximilian Bövingloh, Director Services and Director Global Customer Service SIKORA AG, about the SIKORA Service

■ **Mr. Hischer, you are responsible for the development and organization of the SIKORA maintenance programs. What is the essential advantage for customers who decide for a maintenance program?**

Hischer: The most common reason for a customer to opt for a SIKORA maintenance program is the awareness to have a competent partner who supports customers in every situation. SIKORA offers different versions of the programs depending upon device, production line and contract terms – but all of them have one thing in common: SIKORA takes care of the complete planning and performance

of all occurring tasks from the regular maintenance and calibrations to the professional exchange of parts.

■ **Mr. Bövingloh, you have been organizing the international assignments of SIKORA field service engineers for more than seven years now. What are the most requested services by customers?**

Bövingloh: Our service for “Maintenance and Calibration” is especially requested as many of our customers have outsourced this tasks. SIKORA devices are used daily for many years and are key elements for the control and optimization of the extrusion pro-

cesses. The task of a preventive maintenance has in this respect the highest importance. At SIKORA, we endeavor to support customers with our competence and solutions. Therefore, even a negative situation can become a positive experience for the customer.

■ **Which other services does SIKORA offer?**

Bövingloh: Our service portfolio covers all customer requests perfectly. Already prior to the purchase of a device, we support our customers by *consulting* them regarding suitable technologies and the best position of installation. After the purchase

Maximilian Bövingloh and Jörg Hischer, Director Global Customer Service and Director Services SIKORA AG, in the interview:

„Our service portfolio covers all customer requests perfectly.“



SIKORA DEVICES NOW IN WHITE COLOR

■ Since the beginning of this year, SIKORA has been displaying a new design that has been developed in the context of a uniform corporate design relaunch. White and blue precision is the integrated communication concept. With redesigning all of the communication media such as the website, brochures, product advertisements and exhibition booths the claim to innovation for SIKORA products and services shall also be expressed in communication. Many customers could already receive a first impres-

sion of the new appearance during the wire show 2016 in Düsseldorf.

With the launch of the new design also the color of the SIKORA systems was changed. As the devices of the FIBER Series 6000 and LASER Series 6000 have already presented themselves in white color for some years, all the other devices will also be delivered in white, as standard, from now on. In this way, the product design represents a seamless fit into the new SIKORA corporate appearance.

Another advantage: Soiling from lime residue of the cooling water is the least visible on white paint.



of the device, naturally, we offer the professional *installation and commissioning* that is often combined with a user *training* in order to guarantee the most effective usage. In addition to *repairs*, we also assist our customers via phone *support* and have always the matching *spare part* for our customers' systems in stock. As SIKORA devices have often been used for more than a decade, they can be updated to the state-of-the-art condition with *upgrades/refurbishments*.

When it comes to service assignments, planning and preparation are probably just as important as the actual performance. How do you ensure that all information is taken into account?

Bövingloh: Our colleagues have long-standing experiences and know how to prepare optimally. Furthermore, our service engineers are able to access extensive documentation from former assignments that are documented and filed after task completion. Product specifications, system parameters and much more information regarding the production site of the customer are saved in our in-house database. This database has continuously grown since the establishment of the company and was recently brought up-to-date by the introduction of the new CRM system.

Hischer: Obviously, detailed error descriptions from the customer are very helpful when preparing for the

job. This is also a reason why we introduced our new support and spare part request form on the SIKORA homepage. With this new platform, the customer is able to reach us at any time and can already summarize important information regarding his requirement. Directly after entering the type of equipment and the serial number, the needed spare part can be chosen. A free field to describe the request as well the possibility to upload a picture for example, enable our service engineers to prepare optimally for the planning discussion and possibly the quotation.

FUTURE-ORIENTED CUSTOMER COMMUNICATION

SIKORA introduces new CRM system – for more transparency worldwide

■ For a company such as SIKORA, good customer communication and loyalty are essential. Hence, the step towards a global uniform communication database was a logical consequence. In 2015, the Customer Relationship Management (CRM) system was introduced. The software was individually tailored to the specific requirements of SIKORA and is today the core of the sales and service customer communication in Bremen, Germany – by 2017, all SIKORA offices worldwide will be connected.

In the era of mass production and mass processing, many companies risk losing customers due to

increasing impersonal contact and insufficient support. Therefore, company processes and concepts were developed early on, to counteract this trend. One example for such a concept is the introduction of the Key Accounting – the “one-contact-person-philosophy”. For SIKORA this concept has been common practice for many years.

Advantages for the customer – Transparency

The usage of a global company database implies enormous time savings, especially for customers. If the personal contact person cannot be reached, every employee is able to attend the customer wishes and needs fast and targeted by using the back-

ground information and history provided in the system. This guarantees a high reaction speed.

Advantages for the customer – Quality Management

Since the connection of the service department to CRM at the beginning of the year, SIKORA service engineers have access to the central database and all product information of a customer, they retrieve former travel and repair reports and foresee and plan eventualities of the task. Furthermore, the automatic device administration provides a detailed overview of all SIKORA products worldwide allowing online conclusions regarding the Mean Time Between Failures (MTBF) and supports new and further developments of the measuring systems.



Sonja Hülscher
Project Manager SIKORA CRM

“CRM integrates and optimizes inter-divisional all customer related processes and therefore, helps us to focus on the relationship with our customers even more.”

Advantages for the customer – Centralization

With its offices and permanent representatives on all continents, SIKORA serves customers worldwide. Furthermore, the measuring and control devices as well as inspection, analysis and sorting systems are used in the wire and cable, hose and tube, optical fiber and plastics industries.

Therefore, the connection of sales, service and marketing data was focused during the establishment of the SIKORA CRM.

Advantages for SIKORA

In addition to more efficient customer support, resulting from the usage of centralized data, SIKORA and its customers benefit especially from leaner

and effective processes that positively affect the time and costs management. Furthermore, the connection of the offices worldwide provides process optimizations due to a uniform internal communication structure.

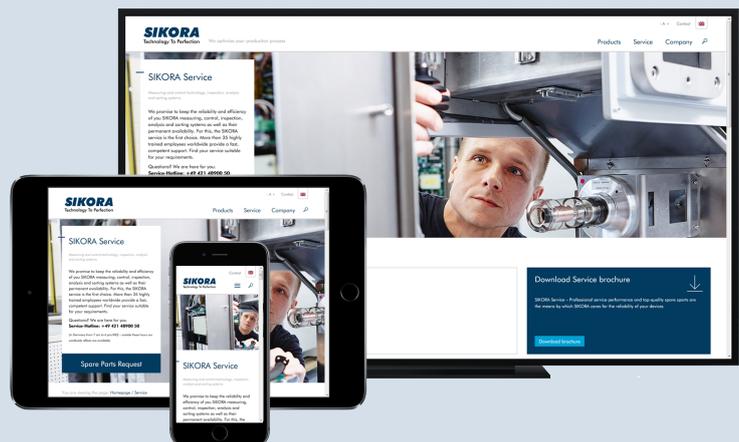
RAFFLE

Your opinion is wanted

On page 7 of this EXTRA edition, we introduced four important features of the new SIKORA website.

In order to keep our support always up to date and oriented to your requirements as well as to guarantee the best service and support in every situation, please send us your feedback, suggestions for improvement or critique regarding these features.

Each submission participates automatically in the raffle.



Send an email with your suggestions, praise or critique by September 16th, 2016 to: communications@sikora.net

Fitting the football summer we will draw one of three Weber Smokey Joe charcoal grill
(Picture similar)



Each correct answer takes part in the raffle. Employees of SIKORA AG and SIKORA Holding GmbH & Co. KG and their relatives are not allowed to participate. Each player can only participate once. We value the first e-mail, all subsequent e-mails will be considered invalid. The legal process is excluded.

Good luck!

The correct answer of the last raffle was:

LASER 2100

Congratulations to the winners!

- Dennis Belzer
- H. Moghimi
- David Graff

SIKORA

Technology To Perfection

SIKORA AG
Bruchweide 2 · 28307 Bremen
Germany
Phone: +49 421 48900 0
www.sikora.net
sales@sikora.net

BRAZIL

sales@sikora-brazil.com

CHINA

sales@sikora-china.com

FRANCE

sales@sikora-france.com

INDIA

sales@sikora-india.com

ITALY

sales@sikora-italia.com

JAPAN

sales@sikora-japan.com

KOREA

sales@sikora-korea.com

RUSSIA

sales@sikora-russia.com

TURKEY

sales@sikora-turkey.com

UKRAINE

sales@sikora-ukraine.com

USA

sales@sikora-usa.com

UNITED ARAB EMIRATES

sales@sikora-uae.com