SIKORA EXTRA

Your magazine for Inspection | Sorting | Analysis

SIKORA EXTRA | Edition #1/2017 www.sikora.net

Dear readers,

For over 40 years, the company SIKORA has been excelling by passion for technology and future-orientated innovations in the areas of measurement, control, inspection, analysis and sorting technology. We are pleased to present you for the first time our EXTRA – your magazine for inspection, sorting and analysis.

With the EXTRA, we regularly inform you about interesting and valuable topics relating to quality control, process optimization and cost savings at the production and further processing of plastics material. In this issue, we will introduce our company on page 4 and give you a first overview about our products and comprehensive services. In October, we will be at the Fakuma in Friedrichshafen with a booth on which we would warmly like to invite you. Come and meet us there personally. We are looking forward to show you our product portfolio. In advance, you find further information on page 5.

On pages 6 and 10, we present you our PURITY SCANNER/ADVANCED for online inspection and sorting of plastics material, which – thanks to the combination of X-ray and optical technologies – offers application possibilities that have not existed in the industry in this combination so far.

Read these and further exciting articles on the following pages. We hope that you will enjoy reading and are pleased to receive your feedback at any time.

Sincerely,

Dr. Christian Frank
CEO SIKORA AG

Harry Prunk
Executive board SIKORA AG

f. l.: Dr. Christian Frank, Harry Prunk

CONTENT

WELCOME AT SIKORA!

"TECHNOLOGY TO PERFECTION"

SIKORA's promise for more than 40 years

As a leading company for intelligent measuring and control technology as well as for inspection, analysis and sorting systems, SIKORA's clients worldwide benefit from advanced solutions for quality control, process optimization and cost reduction.

Since 1973, SIKORA has been developing and manufacturing high-quality devices at its headquarters in Bremen, Germany. With more than 200 employees worldwide, 14 international offices and more than 30 local representatives, the company is present on all continents and offers clients innovative product solutions and individual service. The certification according to DIN EN ISO 9001 confirms SIKORA's focus on continuous improvement of the process and product quality.

Find more information on SIKORA at www.sikora.net/en/company/ueber-sikora

SIKORA started its business in the wire & cable industry, as Harald Sikora, the founder of the company, set new standards in the 1970s with the idea of a non-contact, real-time measurement of cables during production. Since then, the company has consistently developed this technology and has transferred it to new systems and application areas.

Due to modern laser, X-ray, millimeter waves, ultrasound as well as optical technologies, product parameters are precisely and reliably measured and highest quality ensured. Today, SIKORA successfully uses its technological know-how in five business units: plastics, hose & tube, wire & cable, optical fiber as well as service.

At the plastics processing high quality requirements set great challenges for both plastic manufacturers as well as the processing industry. Contamination, color anomalies or inhomogeneities can already appear in the raw material and reduce the quality of the final product. This requires continuous as well as offline quality controls. SIKORA's innovative inspection, analysis and sorting devices ensure a constant material quality. Plastics are reliably inspected and contamination are detected, sorted out and analyzed, in order to prevent future contamination. Thus, quality standards are fulfilled, production processes optimized, and finally, material and costs are saved.

SIKORA AT THE FAKUMA 2017

Technologies for quality control and process optimization at booth A6-6110

SIKORA at the Fakuma 2017

From October 17 to 21, 2017, exhibitors and expert audiences working in the field of industrial plastics processing meet for the 25th time in Friedrichshafen at the Fakuma. SIKORA, manufacturer and global supplier of innovative measuring, control, inspection, analysis and sorting devices, presents at Fakuma a comprehensive portfolio of systems for quality control, process optimization and cost savings for the hose, tube, sheets and plastics industries.

With the CENTERWAVE 6000, SIKORA presents a main actor for the measurement of diameter, ovality, wall thickness and sagging of large plastic pipes during the extrusion. The system is based on millimeter waves technology and measures pipes with a diameter from 90 to 3,200 mm. The CENTERWAVE 6000 is available in a rotating version, and thus, offers the complete measurement of the wall thickness at 360 points of the entire circumference of the pipe. Alternatively, a multiaxial system is available with static sensors. The PLANOWAVE 6000, also based on millimeter waves technology, is used for thickness measurement of plastic sheets.

Another highlight is the PURITY SCANNER ADVANCED for online inspection, and sorting of plastic material. The combination of an X-ray camera with a flexible, optical camera system is the only technology at present that reliably detects contamination on the surface as well as inside of plastic pellets. Contaminated pellets are automatically sorted out. Depending on the type of contamination and application, optical high-speed cameras as well as X-ray, color and infrared cameras are used.

For smaller material throughputs and for applications where sampling analysis or incoming goods inspection are sufficient, SIKORA offers the PURITY CONCEPT Systems. Alternatively, these analysis devices can be equipped with X-ray technology, optical cameras or infrared sensors and detect contamination in pellets, flakes, films/tapes and injection molded parts.

Visit us at booth A6-6110 and get inspired by further systems for online measurement of the diameter, ovality, wall thickness and eccentricity of products as well as for lump detection.

INSPECTION OF THE SMALLEST CONTAMINATION

PURITY SCANNER: Combination of X-ray and optical technologies

Today we have an overall increased awareness for improved quality for all kinds of products. The goal is the detection and elimination of the smallest defects to avoid functional or visual damage in the products of the consumer.

PURITY SCANNER
with display unit

Due to the application of SIKORA's inspection and sorting system PURITY SCANNER, a 100 % online inspection of the plastics material is ensured, and thus, the material quality can be significantly improved. At the same time, processes are optimized and costs can be saved.

Rising quality demands in the plastics industry

Plastics, as they are used in the medical sector or aerospace and automotive industries, and especially highly sophisticated engineering plastics, for example for semiconductor manufacturing, require the highest quality standards. Impurities of a size of 50 µm may already cause damage to production systems or end products with high follow-up costs. Furthermore, latest norms and standards demand the exclusion of contamination from 100 µm in the processed material. In the different complex production steps of plastic products, impurities may repeatedly occur. This affects the processes of material producers as well as the compound and masterbatch producers, the processing industry, the recyclers and the whole supply chain. The contamination can have visual as well as functional effects on the end product and can also cause damage to high by sophisticated processing machines. The majority of the control and sorting systems that are available nowadays are based on optical inspection technology, and thus, they can only detect contamination on the pellet. Contamination inside the pellets, especially in colored pellets, remain undetected by an optical system. Therefore, SIKORA has developed the PURITY SCANNER, which detects contamination from 50 µm inside the pellet and on its surface with the combination of X-ray and optical technology.

X-ray technology for inspection of plastic pellets

The X-ray camera in the PURITY SCANNER takes pictures of the plastic pellets that are processed in real-time by mathematical algorithms. The resolution of the X-ray camera permits the detection and sorting out of contamination in the pellet down to a size of 50 μm. A clear advantage of the X-ray technology is its independence of color and transparency of the test material.

New optical inspection technology

Regarding the optical inspection that is also integrated into the PURITY SCANNER, the lighting plays an essential role. The smallest contaminants, e.g. organic impurities, are detected by modern camera technologies at industrial speed. Contamination exceeding a defined size are sorted out.

Conclusion

The PURITY SCANNER is a state-of-the-art inspection and sorting system based on X-ray and optical technology. The device detects contamination from 50 μm inside the pellet as well as on its surface and reliably sorts them out.

For applications, in which a broad variety of plastic materials needs to be inspected, SIKORA offers the PURITY SCANNER ADVANCED with a flexible camera system that is tailored to the specific requirements of different productions. Learn more about this on page 10.

Find further information at:

www.sikora.net/tech_article_inspection_sorting

KNOWLEDGE

The basic principle of X-ray technology is the different attenuation of raw material and possible impurities. The attenuation (μ) of the X-rays is mainly determined upon the nuclear charge of elements as well as of the thickness of the material to be inspected. It is proportional to the atomic number raised to the 3rd power ($\mu \sim Z3$).

Due to the different attenuation behavior of the materials, cross contamination, organic contamination, air holes as well as additive agglomerates become also clearly visible in pellets.

SIKORA SERVICE: EFFICIENCY BY EXPERIENCE AND KNOW-HOW

Wherever you are – SIKORA is close at hand

SIKORA service engineer

With a professional service portfolio and high-quality spare parts, SIKORA provides reliable measuring, control, inspection, analysis and sorting devices as well as their permanent availability.

Consulting

Prior to a purchase of a device, SIKORA supports customers with consultations regarding fitting technologies and possible positions within the line. Due to approximately 1,000 yearly visits at customer plants, SIKORA service engineers have high empirical values, which they use to assure process optimization and highest product quality.

Installation and Commissioning

With professional device installations, optimal results right from the beginning are achieved. SIKORA service engineers assist customers worldwide with compentence and experience. This means: SIKORA systems are immediately available and permanently applicable.

Trainings

Whether basic introductions for the device operation or intensive trainings on functional principles, structure and components, maintenance and event search/solving – SIKORA offers a comprehensive training program that can take place at either customer sites or at our headquarters in Bremen, Germany.

Calibration and Maintenance

Regular maintenance and calibration according to ISO 9001 ensure reliable measurements for many years and a high availability of up to 99.98 %. Functional tests, replacement of wear parts, calibration with certified measurement standards, check of the operation safety and many more services are available to customers as part of SIKORA's carefree maintenance programs for one, three, or five years.

Refurbishment

Correct operation, regular maintenance, and calibration are the prerequisites for long life cycles of the devices. To satisfy constantly increasing requirements, SIKORA continuously develops modernisation measures, such as software updates or hardware upgrades, to ensure a reliable control and optimization of production lines for years.

Smart Assistance Manager (SAM)

The 13.3" industrial tablet enables a direct connection of SIKORA devices with the PC of a SIKORA service engineer, independent of company networks. Due to the integrated video chat, operators receive professional support for remote maintenance or diagnosis tasks.

Our service engineers at headquarters in Bremen, Germany, or our 14 globally located offices stand by your side with advice and deeds. Wherever you are – we are close at hand. For your personal consulting regarding SIKORA devices, services and maintenance programs contact us at:
+49 421 48900 50 or service@sikora.net

"ENTHUSING CUSTOMERS WITH THE ADVANTAGES OF SIKORA'S TECHNOLOGIES"

Michael Galla is new Area Sales Manager for the "Plastics" division

Since July 2017, Mr. Galla has been reinforcing SIKORA's sales team in Bremen and has been serving clients worldwide in the plastics industry on all questions concerning inspection, sorting and analysis of plastic material.

Mr. Galla, you joined SIKORA some time ago. What is your impression of the company?

I am impressed how the company, that originated from the wire & cable industry, has grown further over more than 40 years. Meanwhile, we are also very successful in the hose & tube as well as optical fiber industries, and with the plastics market, we are active in another innovative branch. The close cooperation with the colleagues of the different departments, like development and production, allows a quick and efficient processing of customer requests. Moreover, the team spirit determines our daily work.

What is your field of activity at SIKORA?

I am mainly responsible for supporting new and existing customers in the plastics area and am available as their direct contact person. Thus, I intensively work with our 14 offices in the different regions and support them in serving our clients in the plastics market on a local basis.

What qualifies you for your work at SIKORA and which experiences have you already gained?

I've been working in sales for 14 years and have achieved an extensive know-how in the fields of mechanical installations and investment goods in the hygiene industry requiring explanations. I can easily use these experiences in the plastics market.

What do you want to achieve with your work?

For me, one of the main reasons for joining SIKORA was the opportunity to shape the "Plastics" business division. I want to enthuse customers with the advantages of SIKORA's technologies for the plastics industry. For example, with the PURITY SCANNER, we have developed an inspection, analyzing and sorting system that monitors the quality of the plastic granulate online by reliably detecting contamination inside as well as on the surface of the pellet and by sorting out contaminated material. Thus, producers and processors are able to optimize their processes and material consumption, and end users benefit from high-quality end products. I am pleased to develop perfect solutions for optimal processes together with our clients and to provide advising support.

Mr. Galla, many thanks for the interview!

Michael Galla, Area Sales Manager

QUALITY NEEDS WATCHFUL EYES

The PURITY SCANNER ADVANCED offers four innovative camera technologies

All in all, the PURITY SCANNER ADVANCED includes up to five cameras that inspect the pellet stream. The system reliably sorts out contaminated pellets. Depending on the plastic materials as well as the type of the expected contaminant, the PURITY SCANNER ADVANCED is equipped with corresponding cameras.

01 X-ray camera
For the detection of contamination inside the pellets, the PURITY SCANNER ADVANCED has an X-ray camera as standard that reliably detects, for example, metallic contamination from 50 µm.

02 Optical cameras
Similar to the PURITY SCANNER, the PURITY SCANNER ADVANCED offers two reliable optical cameras to detect discolorations, scorches and other contamination on the pellet surface.

03 Infrared camera
In plants where different materials with similar external characteristics are processed, the application of an infrared camera is useful. The hyperspectral camera irradiates the pellet flow with a broadband light to subsequently analyze the results of certain frequencies, and thus, to detect cross-contamination.

04 Color camera
By using a color camera in the PURITY SCANNER ADVANCED, the device is able to reliably sort out foreign pellets of a different color as well as color deviations.

RAFFLE

Send us your best SIKORA Fakuma Selfie!

Visit our booth (A6-6110) at Fakuma 2017 and get to know our innovative measuring, control, inspection, analysis and sorting systems for quality control in the Hose, Tube, Sheets and Plastics industries.

To keep your stay in best memory take a picture of yourself on our booth.
The best selfie wins!

Send your selfie via:

Twitter: @sikoranet #sikoraselfie
WhatsApp: 0176 1489 0102
Email: extra@sikora.net

Closing date is November 15, 2017.

Win one of three Bose® SoundTouch 10 speakers.

Your contact details will not be passed on to third parties. Please note that your submitted pictures may be published for advertising purposes. Each correct answer takes part in the raffle. Employees of SIKORA AG and SIKORA Holding GmbH & Co. KG and their relatives are excluded from participation. 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!

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Technology To Perfection

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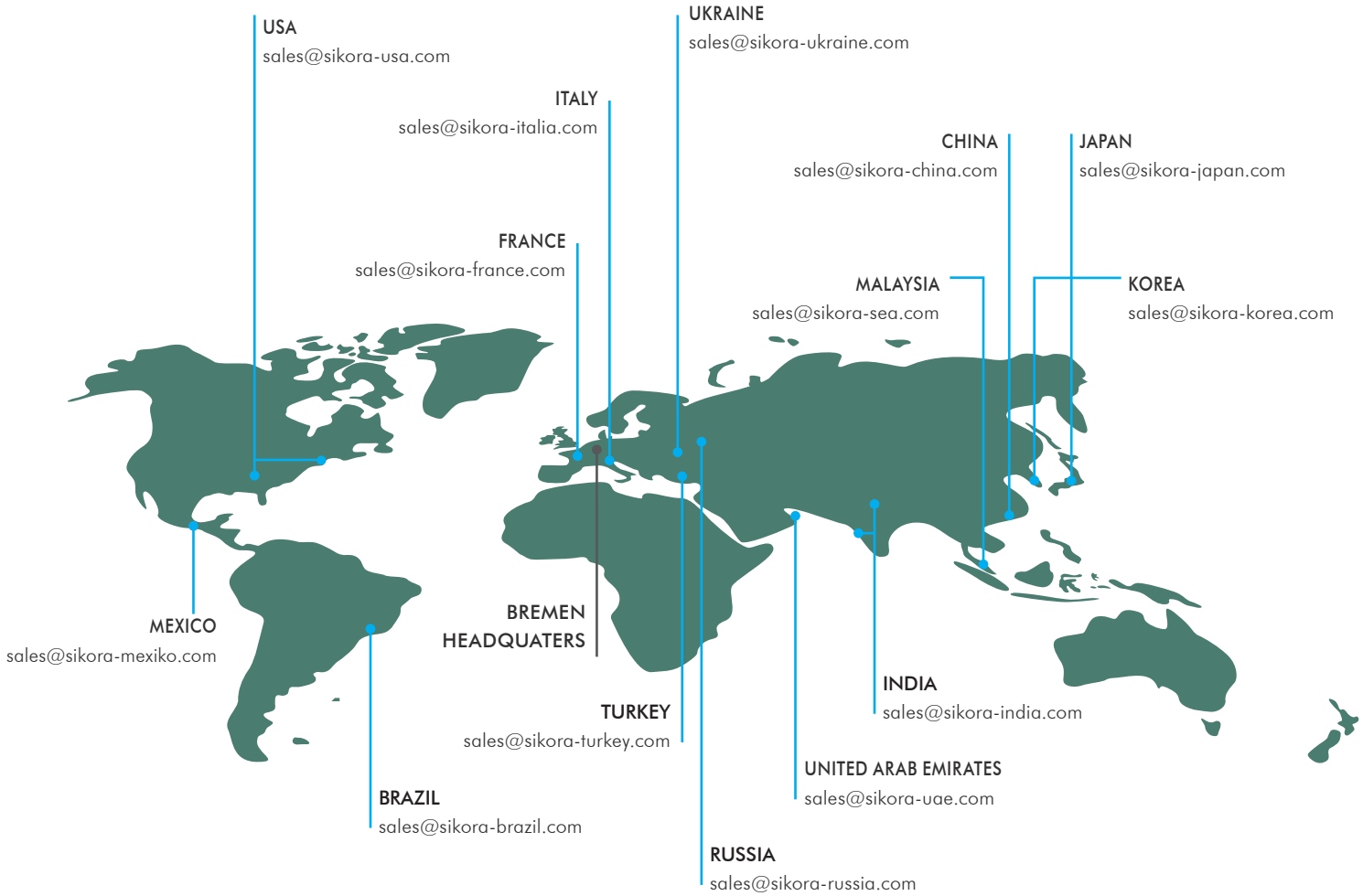

Publisher
SIKORA AG, BREMEN

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