

INFOTECH

NEWS OF THE AUTOMATION DIVISION



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are built for the harshest environment

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Editorial



SUHNER products are built for the harsh environment. And when we say that, we mean it in more than just one way. On the one hand, we all sense the harsh environment of the world economy. On the other hand, I am really excited about this issue of INFOTECH – on the following pages, I will be telling you about the new products and services offered by SUHNER, which will ensure you're well equipped to work in the harsh environment of machining production.

The machining of many different materials using water as cutting fluid is a big challenge for machines and designers. Below, you will learn how SOMEX, a specialist in this field, completes such tasks.

I am honored to present the ROBOT-sander to you. This robotic technology, developed by SUHNER Automation, is our newest technology package.

Some may say an investment in a robotic solution is not worth it for small production batches. SUHNER Automation and Robo-Job will prove that the opposite is true.

SU-matic, after many years of extensive use in North America, is now bringing its sturdy and smart high-pressure systems, made by MP Systems, to Europe.

Now, dear readers, our SUHNER partners, let's face this harsh environment we've been talking about. We are very much looking forward to the challenge.

Christian Jermann
Head of the Automation Division



Water, steam, dust: a challenging mix

The use of water as cutting fluid is imperative for machining stone, ceramics, concrete or for water jet cutting. Here, water becomes the biggest challenge for machines and their designers.

- Depending on the pH value, even clean water can have a corrosive effect.
- Water mixed with dust becomes an abrasive.
- Water steam invades surfaces.

During the last years, SOMEX has realized various customer projects where the working environment demanded an increased corrosion resistance of the components. If water is used as cutting fluid without adding lubricants, emulsions or corrosion protection, the choice of material and the selected surface machining have to be adapted to the water composition depending on the project. Moreover, depending on the field of application, electrical and mechanical components require special protection. The best solution

is to remove these components completely from the hazard area with structural measures.

For a recently completed project for concrete machining, we added a cylindrical housing to the MAX40R milling spindle already in use; in addition, the automatic tool change system was upgraded for heavy-duty work in mud and dirt. While we were machining the concrete elements, the untreated ground water was immediately mixed with the concrete dust and this became a heavily abrasive and corrosive mass. For example, the functional specification required the operating personnel to clean using a high-pressure cleaner after every stop. The challenge was: the unit had to be both water and dust-resistant as well as corrosion-resistant.

To increase the density, SOMEX made the spindle pressure-resistant, increased the amount of seals in the transfer area, used sealed bearings, created inner labyrinth apertures and an asynchronous motor with splash-proof coils.

To increase the corrosion resistance of our product, parts that are directly exposed to water are made of stainless steel or their surfaces undergo a special treatment, which also improves the wear resistance, the corrosion protection and the fatigue resistance. Finally, external protection was ensured by using a special varnish.

Those experiences gave us an opportunity to acquire some special knowledge which we now employ to the benefit of our OEM customers when there are problems caused by aggressive applications that need to be solved. SOMEX had implemented further applications of graphite blanks, and materials of equal complexity, and subjected them to high temperatures.

“Our planning office loves challenges like this and has successfully met these non-standard requirements, all the while demonstrating creativity and dedication.”

SOMEX has true expertise in implementing customer requirements according to project specifications.

Production expert

Highest quality

Testimonial

“Since 2009, we have enjoyed an excellent business relationship with SOMEX. As an OEM (original equipment manufacturer) of heavy-duty machining spindles with an automatic tool changer, SOMEX continues to provide spectacular results and immediate responsiveness.

With the reliable products manufactured by SOMEX, we are able to perform all drilling and tapping operations on our CN-controlled ADM-type 3-axes profile machining equipment.

Our production lines consisting of profile machining equipment, integrated conveyor technology, marking units and band saws are used to produce customized profiles and steel girders for the construction of bridges and buildings. The law requires that holes for these highly stressed applications be drilled rather than burned or punched.”

Bernard De Muijnck, CEO
Kingsland Engineering

SUHNER

Review PRODEX 2016, Basel

In November 2016, the specialists from Switzerland met each other at the PRODEX facility in Basel. Leading companies presented the entire production chain and all machining processes in a compact and clear manner. As a Swiss manufacturer of machining units, SUHNER also presented its new products at the PRODEX.

SUHNER innovations at the PRODEX



New grinding belt changer

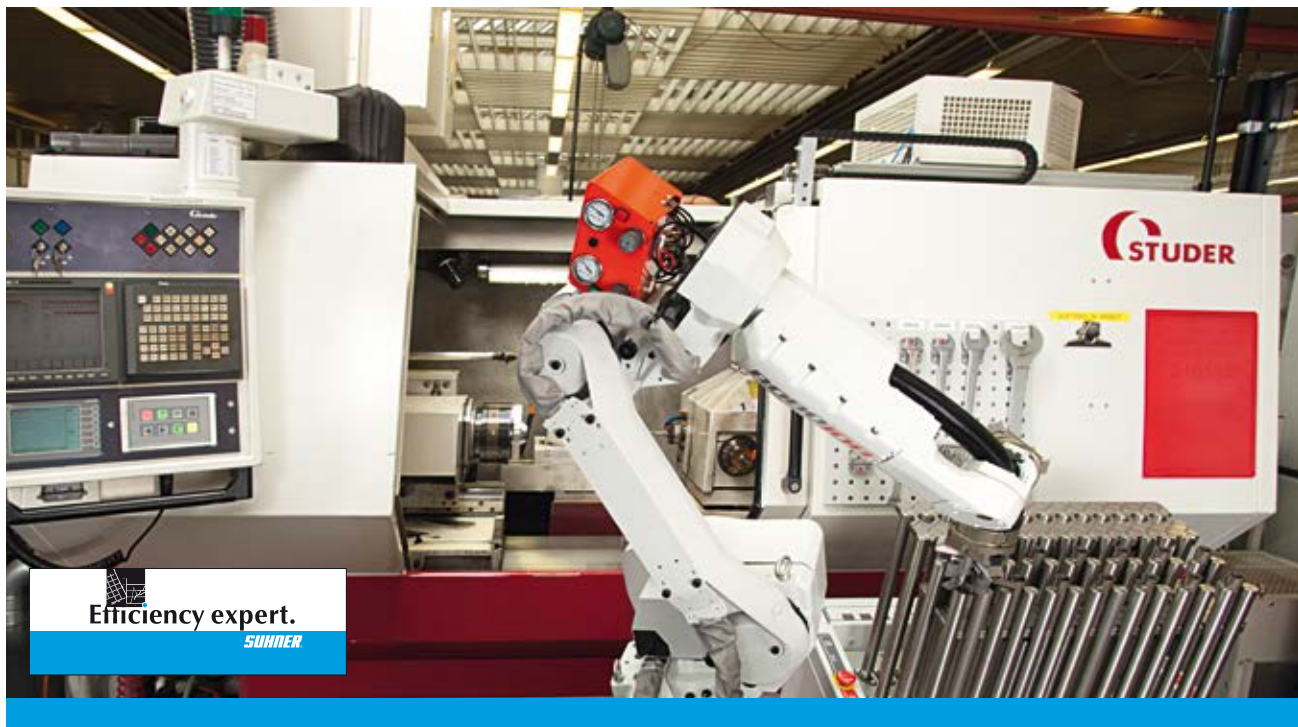
Apart from our new range of robot tools and end effectors, the new, automatic grinding belt changer was also introduced. This new grinding medium changer gives robot-supported production a whole new dimension in terms of productivity and flexibility.



New deep hole drilling systems

In a highly precise manner Suhner introduced solutions for the integration of a deep hole drilling system into the production plant as a modular, customized system or as a turnkey solution for diameters over 12 mm and drilling depth up to 40 x diameter.

With its presentation of the Automation expert, Efficiency expert, Production expert, Tooling expert and Transmission expert production lines, SUHNER was made a strong impression at the PRODEX.



Efficiency expert.

SUHNER

Small production batches – smart automation with SUHNER

A year ago, SUHNER Automation AG was able to announce its new collaboration with RoboJob, the Belgian specialist for CNC machine automation. Since then, both companies have gained their first customers and performed various installations. Apart from different CNC lathes and milling machines, the first grinding machine with a RoboJob loading station worldwide was automated.

“From the over 200 installations carried out by us so far, the vast majority was CNC lathes, with a gradual increase of milling machines. Turn-Assist was our first product. In the interim, we have also added Mill-Assist Essential and Mill-Assist Conveyor to our product offering and these products are catching up really fast. This is the first grinding machine that we are automating,” explains Helmut De Roovere, CEO of RoboJob. He then elaborated: “The principle, however, is essentially the same: the robot takes a blank from a specific place and positions it in the grinding machine in a highly precise manner. After that, the machine simply does its job. Then,

the robot removes the workpiece from the machine and positions it in another specific place. The user-friendly interface, which does not require the machine operator to have any robot-related or programming skills, and a sophisticated positioning concept, make it possible to completely set up the loading robot in less than 5 minutes.”

SUHNER Automation AG completed the installation a few months ago. According to Beat Bütler, the managing director of SUHNER Automation AG, the customer is extremely satisfied both with the installation and with the solution we recommended. “At first, the customer was not entirely won over by the precision and the user-friendliness of the automation. The precision and the immaculateness of the clamp system are the critical factors for grinding, and now, due to automation, these machines will be operated without any human assistance. Therefore, we are very pleased that the quality of the standard products produced by RoboJob had proved to be 100% satisfactory. Moreover,

the installation was completed within just a few days, and, following a half-day training session, the machine operators were able to utilize the system without any difficulty.”

SUHNER Automation AG is very proud to offer its clients a further opportunity to increase their efficiency and flexibility with this highly trendsetting range of standardized loading and unloading robots – particularly clients with small and medium production batch sizes.



Excellent project support

Testimonial

For Otto Ganter GmbH & Co. KG, SUHNER developed and manufactured a rotary transfer machine with six stations, which allowed the client to perform systematic and precise machining of the various retaining rings. The

machine can be individually converted with only a little effort. *"The big challenge is the great variety of versions in which are produced and available. Project management and project support offered by SUHNER Automation AG have always been excellent. Every single detail*

had been agreed on in advance, so that the serial production could start without any real delay."

Armin Haberstroh, Head of Production
Otto Ganter GmbH & Co. KG



MP high-pressure systems available exclusively from SU-matic

MP Systems manufactures high-pressure cooling systems for various production processes – from simple to specially customized. The model range includes storage pumps for different CNC machine tools such as machining centers, multifunctional machine tools, special machines both for vertical, horizontal lathes as well as for economical multi-purpose pumps for daily use.

The products manufactured by MP Systems are designed for minimizing downtimes and for easy routine maintenance. The pumps developed, produced and installed by MP Systems are often used in such fields as the defense industry, medical technology, aerospace, energy generation and other industries. With MP Systems, you can increase the service life of your tools and the machining performance.

MP Systems uses high-quality components to optimize the reliability of its products. The products are tested in a realistic environment and under extremely tough conditions. All pump components, including the filters, can be easily accessed and removed for servicing and maintenance purposes. The highly reliable and easily changeable 5-µm filters remove milling, turning and grinding chips, thus prolonging the tool life.

Testimonial

Since its modest beginnings in a rented building with only three screwdriving machines to the present-day factory with a surface of almost 7500 m², Vanamatic is a leader in the field of precision machined components. Today, the company is also active in such fields as industry, automotive,

aerospace, electrics, air conditioning and housing industries.

"The main reason for us purchasing a high-pressure pump was our performing deep drilling in stainless steel and unalloyed steels. Without using a high-pressure pump, we were not able to achieve drilled depths of 12 to 15x diameter. Before we began using a high-pressure pump, we had to divide the drilling process into many different steps. Now that we are using pumps made by MP Systems on two of our deep-hole drilling machines, we are able to reliably perform the required deep hole drillings. Thanks to the products provided by MP Systems we were able to greatly increase our output."

Steve Schroeder, Engineering Manager
Vanamatic Ltd., Delphos (Ohio, USA)



All tried and tested SUHNER tools now also for use in robots

For 50 years now, SUHNER power tools have been successfully used in manual and industrial applications for abrasive surface machining. The main application area is the manual production during grinding, cutting and polishing for such materials as stainless, aluminium or stone. They are used in the fields of machine construction, boiler construction, foundries as well as tool and mold making.

SUHNER Automation components are used on a daily basis by customers in the automotive, electric, aircraft, precision engineering and building technology for effective chip

removal production of parts and components. The many years of experience of both SUHNER expert teams were combined for the development and production of trendsetting tools for robot-supported production.

The result: high-level components and tools for a permanent use in robot cells or robot production lines.

The operations include all previously implemented production processes, such as drilling, milling, thread-cutting, grinding, cutting and polishing.

Due to the things tools and quick release solutions on robots can do today, the machining process can be extended at any time with

the help of a robot equipped with the required SUHNER component. It does not matter what connections are required. Whether compressed air, electrical power or hydraulics – a reliable change is guaranteed, and a reliable connection with high precision is achieved.

What component is to be used and what drive model would be the most efficient and cost-effective option solely depends on your requirements. In any case, SUHNER can offer you the right solution!



Your personal surprise gift

SUHNER products remain reliable even in the toughest conditions. For more information about our sturdy products, please make an appointment with your sales engineer.

You will receive a surprise gift* for the tough winter days. We look forward to hearing from you:
automation.expert.ch@suhner.com

* Offer valid until 31 March 2017

Automation expert

ROBOTsander – a fine touch for any complex form

SUHNER Automation has applied all of its know-how and its vast experience in the field of grinding and process automation to develop a new robotic technology for the purposes of surface machining to perform comprehensive grinding tasks for high-quality assemblies. ROBOTsander has been developed for aircraft assemblies such as control surfaces, fuselage segments, linings, engine inlets and engine components, setting new standards for automated surface machining in the aircraft industry.



Outstanding surface quality

Depending on the customer requirements, many different Suhner end effectors are available in order to achieve the desired surface quality and machining time. The end effectors have been developed for deburring, grinding, buffing and polishing. The operational parameters crucial for achieving high quality such as surface path, speed, pressure or grinding type can only be achieved using electric and highly precise end effectors if the required precision is to be ensured.

In close collaboration with a software partner, Suhner has developed a technology package for robot-supported surface machining and integrated it into a Digital Factory Module. The work parameters are determined, digitally tested and loaded directly into the robot controller using CAD surface models.

The following control and verification of the critical qualification parameters can either be performed in Suhner's robot test station in Switzerland or at any customer location.

Apart from the basic version of ROBOTsander, Suhner offers extensions for 3D assembly scanning, automatic component calibration, automatic surface condition measurement and logging, surface cleaning as well as the application of a protective coating and a changing station for abrasives.

Savings in terms of cycle times and cost

With the help of the Digital Factory Module, any process can be analyzed separately or in the entirety of the robot cell. This means that optimizations can be carried out long before the initial delivery, thereby reducing the process-related risks and development times.

The exact parameterization of the surface machining allows the precise selection of abrasives as well as sustainable planning of acquisition, storage and disposal, thereby reducing the total cost.

Everything under control

Due to the Industry 4.0 technologies and the utilization of the Suhner Digital Factory System, customers can monitor performance locally or remotely, perform process diagnostics and optimization and carry out preventive maintenance work and spare parts planning.

ROBOTsander is the solution for efficient surface machining in keeping with your needs. All of this is with development times reduced to the minimum.

Trade fair calendar

26 January – 1 February 2017, India
IMTEX Hall 6/Stand C111
SUHNER India Pvt. Ltd.

7–9 February 2017, USA
MD&M/ATX-West Stand 3286
SUHNER Industrial Products Corp.

7–9 February 2017, Mexico
MANUFACTURA Stands 648 & 747
SUHNER Productos Industriales

14–17 February 2017, Germany
TUNING DAYS
SU-matic AG

7–8 March 2017, USA
AERODEF Stand 242
SUHNER Industrial Products Corp.

7–10 March 2017, Mexico
TECMA Stand 130
SUHNER Productos Industriales

7–10 March 2017, Germany
INTEC
SOMEX SAS

7–12 March 2017, Taiwan
TIMTOS
OTTO SUHNER AG, Faith Automation

23–25 March 2017, Italy
MEC-SPE Stand D44
SUHNER SU-matic S.r.l.

28–30 March 2017, Mexico
PLASTICOS Stand 1534
SUHNER Productos Industriales

4–7 April 2017, France
INDUSTRIE
SOMEX SAS, SU-matic AG

17–22 April 2017, China
CIMT
SUHNER (Suzhou) Industrial

8 April 2017, Slovenia
FORMA TOOL
OTTO SUHNER AG, Klasand

9–12 May 2017, Australia
AUSTECH
OTTO SUHNER AG, Romheld Automation Ltd.

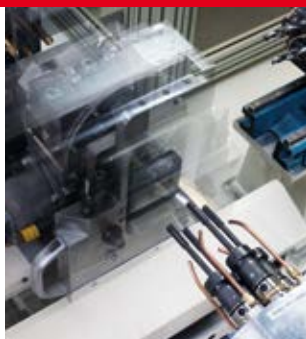
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ABRASIVE

 **Abrasive expert.**
SUHNER

 **Trimming expert.**
TURBO TRIM



AUTOMATION

 **Automation expert.**
SUHNER

 **Production expert.**
SOMEX

 **Tooling expert.**
SU-matic

 **Efficiency expert.**
SUHNER



TRANSMISSION

 **Transmission expert.**
SUHNER



STAMPING

 **Stamping expert.**
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	Switzerland	SU-matic AG
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	France	Somex SAS
	Italy	Suhner SU-matic S.r.L.
	Mexico	SUHNER Productos Industriales
	India	SUHNER India Pvt. Ltd.
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