

NORMALIEN **REPORT**

Edition 45 / 2023

Informative · Interesting · Innovative
The company magazine of STRACK NORMA



STRACK®

NORMALIEN

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ARE STRACK!

EDITORIAL



DEAR READERS,

at the moment we are all confronted with major challenges such as the war in Ukraine, energy shortages, profound supply bottlenecks, shortages of raw material, rapid price increases and lack of specialists. In my professional life, there have never been so many challenges concentrated in a short time. Despite these uncertainties we are optimistic about the future. A good order situation in the future and our knowledge of innovative strength, technical knowledge, and the continuing relevance of German and European tool- and mould making industry make us positive despite of the mentioned challenges.

Our claim to be a reliable partner at your side is represented by our far-reaching investments, so that our traditional family-owned company can continue to meet the increased demands of the today's market. Even if the year 2023 is marked with a few question marks, we assure you a consistently good service,

full warehouses and a constant support for your tasks. Together with you and a great STRACK team as the basis of all our actions, we will master the current future challenges together. We are firmly convinced of this.

We hope you enjoy reading and browsing through this Normalien-Report.

A handwritten signature in blue ink that reads "Michael Lang". The signature is fluid and stylized, with a long horizontal stroke at the end.

Michael Lang
Managing Director



FINALLY, A TRADE-FAIR

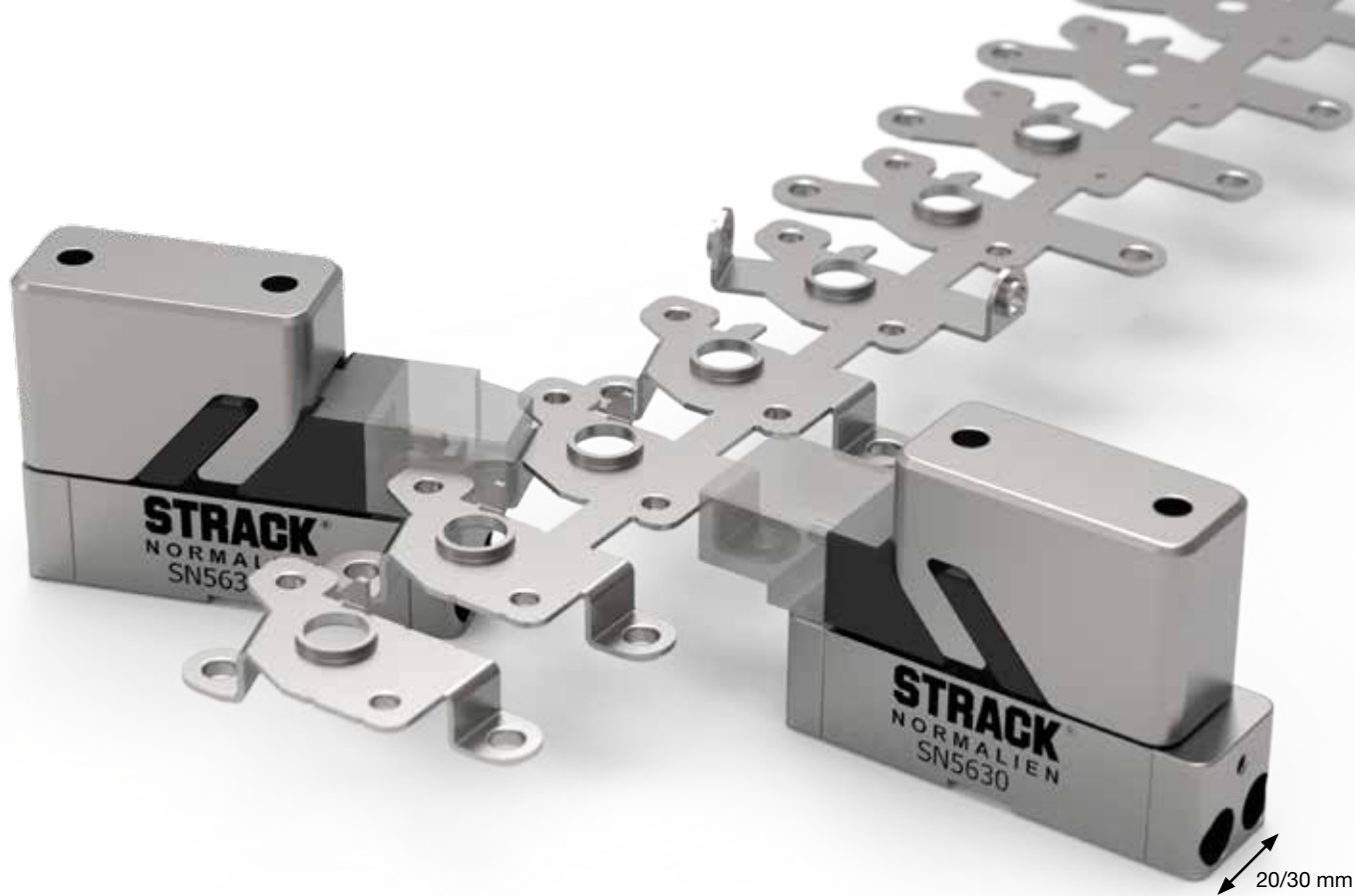


PRESENCE ON-SITE

Last year the trade fair Kuteno and the K-trade fair in Düsseldorf were once again the central point of the German and European tool, model- and mould making industry with many exhibitors and numerous trade visitors from different countries. We again took the opportunity to present our extensive range of innovative and standardised solutions for the tool- and mould making and to demonstrate our concept "THINK.TECH. STRACK." Frank Amende, our sales ma-

nager, was on site "The trade fairs were well attended. We had many interesting discussions with companies from all over the world," he sums up. Especially our concept of offering not only standard solutions but also special productions, product modifications and flexible adaptations were very well received. The response from markets which have a great relevance for us, and our industry, was very positive".





BUILT FOR SMALL SPACE

MINI CAMS FOR PROGRESSIVE DIES

With the mini-cam SN5630 we present the latest development for small- and medium-sized progressive dies in the punching technology. The small and efficient design responds to current market requirements for tightest installation conditions and avoids unnecessary and cost-increasing empty stages.

The most basic requirement in the production of progressive dies is to have finished-falling components. In this process, it has proven effective to feed the material from the coil to the progressive die. This is a sequence of operations such as cutting, punching, bending, or drawing. The aim is to obtain a finished-falling product at the end. Here, it often happens that lateral bending operations have to be carried out. In order to meet this challenge effectively, our development team has

developed a functional solution with the mini-cam SN5630 which can be used primarily in the area of smaller progressive dies. The cam has a compact design with a width of only 20/30 mm and as the existing large cams, has a return spring, a stop damping at high stroke frequencies and an active return. The

prismatic guide is self-centring, and the cam carriage is additionally coated with a hard DLC layer to optimize the service life. Precisely manufactured dimensions and the feather key groove allow the designer to select the optimum solution from various installation options with clean shouldering and positioning.

Additionally, the cam body has a fitting pocket for the precise accommodation of tools or filling cams which can be screwed from the rear and are thus easily accessible. With the CAD data provided, the new cam, which was primarily developed for compact progressive dies can easily be designed into the individual application to avoid cost-intensive empty stages.

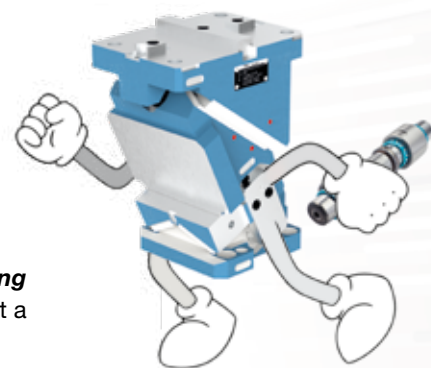


mini cam SN5630
for progressive dies



ALWAYS IN MOTION COMPANY RUN 2022

Also, at this year's 18th AOK company run according to the motto "**Get active for the working atmosphere**" in August, we started again with a great team. The STRACK employees spent a sporty evening under good weather conditions and summer temperatures.



ACHIEVE MORE FLEXIBILITY



The large slide Z42100 efficiently accompanies the toolmaking process from design to production

SLIDE FOR LARGE MOULDS INCREASES FLEXIBILITY

The prefabricated large slide Z42100 allows a flexible selection of variants for the right design for a wide variety of constructions, even outside the standard.

In order to be able to act flexibly in addition to the standard variants, we created the possibility of adapting the new Z 42100 large slide to different demands in terms of dimension and design by means of a variant design. First of all, a standard program was developed which is available in different versions in the widths of 100-180 mm and heights of 80-120 mm. Even in the standard sizes, the design variants offer numerous combination possibilities such as simply straight slides with 20° pressure surface or inclined column bore as well as the options for a pressure plate, a mounting plate or prefabricated cooling holes. A sophisticated

variant programming allows to also produce batch size "1" in special dimensions on our ultra-modern production lines. For this purpose, in addition to the three standard materials 1.2343, 1.2767 and 1.2311 there is the possibility in the web shop to adapt the product to one's own needs with further 16 parameters. This can be integrated as a CAD file in our own design and thus be manufactured at the same time. Even with special dimensions favourable prices can be guaranteed with optimized production times. The new large slide has a bore hole for a zero-point clamping system on the underside so that further processing can be completed quickly and cost-effectively on the company's own machines. This makes the new large slide for moulds a highly flexible component, which means that even the most complicated application scenarios can be realized. These special standard

parts with batch size one are therefore no longer a mere vision of the future but already now a cost-effective reality.

Click here for our large slide product video:



Roll the film!

OUR FOREIGN TRADE FAIRS & EVENTS 2022

PRESENCE WORLDWIDE

As a contact partner we are also present worldwide and enter into direct customer contact: Whether in France, Turkey or Brazil, our employees are there to advise our customers and partners with their technical expertise on site. In October we invited our partners to Lüdenscheid for a sales representative conference and informed them about current innovations, new products, and current concepts.

PLASTEURASIA
NOVEMBER
TURKEY

MACHTECH & INNOTECH
SEPTEMBER
BULGARIA

IND-EXPO
JUNE
INDIA

MOLDPLAS
NOVEMBER
PORTUGAL

MESCPE
JUNE
ITALY

FRANCE INNOVATION PLASTURGIE
APRIL
FRANCE





MOVING FORWARD TOGETHER

After almost three years of online exchange and zoom conferences, we were able to welcome our foreign partners on site again this year. At this year's representative conference which took place in Lüdenscheid before the K – trade fair, our partners could look forward to two days of further education, training on current innovations and current concepts. In the evening, we exchanged our experiences at a cosy get-together and tried our luck together in the casino.



EXPORT MEETING COLLECTIVE EXCHANGE OF EXPERIENCES



SUCCESSFUL WORKSHOP



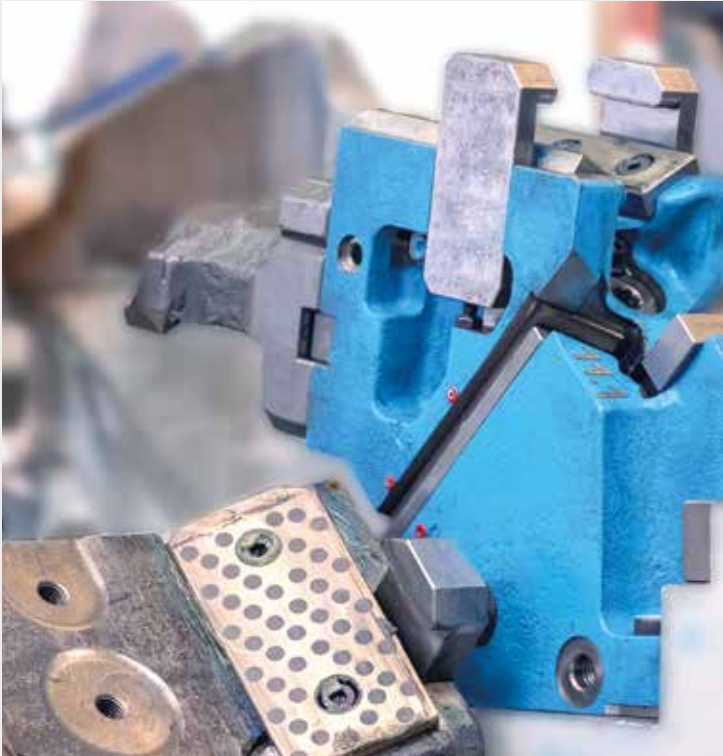
Deep insights in the automation of production were given on site

COLLABORATIVE PARTNERSHIP

In April interested parties and customers of our partner Fastems Systems GmbH met in Lüdenscheid. In a common workshop followed by a tour in our flexibly automated production, we showed why investing in automation and digitalisation is worthwhile and can contribute significantly to increasing efficiency in the production. The hours were exciting with a lot of information, discussions, suggestions, tips, and insights into the automated machining practice.



SMALL AND POWERFUL



@SWB Schmedthenke

POWERMAX®

The PowerMax® cam program is optimally designed to meet the high force- and quality requirements in the automotive industry and at the same time offers every designer a high degree of design flexibility with a wide range of special solutions. Our worldwide unique guiding concept with high retraction forces is shown in our cams PMOK, PMOKL and PMOL.

*Small and
super strong.*



NEW VERSION FOR MORE FLEXIBILITY

The constant improvement of the efficient production process is the focus of today's toolmaking. Therefore, we revised our PowerMax® product range and adapted it to the requirements of the market and the customers. This is reflected in the new version V04 which is currently on the market and stands for more flexibility and continuity. The current version offers the user several innovations to the proven series. For example, the continuity of the new features was adapted in all series.

The distinction in Basic, Medium and Premium versions has been dropped for simplification and were integrated into the standard series PMO and PMOK as well as in the light versions PMOL and PMOKL. The optionally available sensors allow a continuous position monitoring for more safety in production. At the same time, handling, flexibility, and installation variants were designed in such a way that the designer and the tool mechanic have some options for better positioning in the tool.



@SWB Schmedthenke



KNOWLEDGE IS POWER

TRAIN.TECH.STRACK.

The Standard Parts Academy.

In order to be a reliable partner at all times, we have been offering short and informative webinars for some time now, which can be accessed at any time. In these webinars we discuss the application possibilities and areas of use for various products and product ranges that can help you and your company.



NOW, go to our
WEBINARS

STRACK CONGRATULATES!

We congratulate and we want to thank our employees belonging to the STRACK family for many years.

MANY THANKS & CONGRATULATIONS!

10 YEARS

MARCUS GEDUTTIS

Entry: 16.01.2012

DANIELA KLÜTING

Entry: 01.09.2012

25 YEARS

MICHAEL SEEFELDT

Entry: 01.03.1997

FOR BIG CHALLENGES



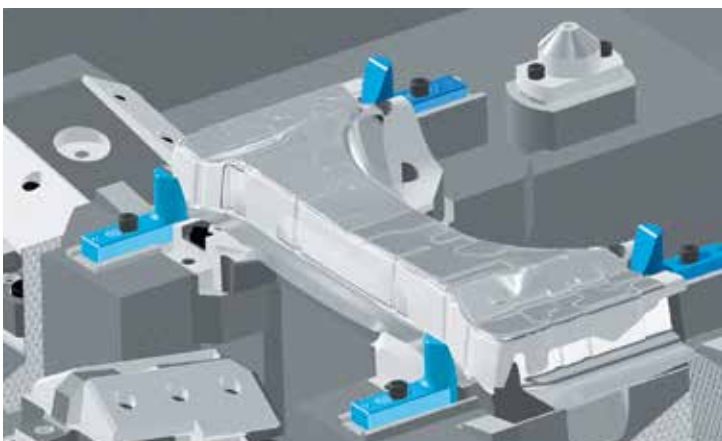
PowerMax® standard slider built into the tool

STANDARD PARTS FOR THE LARGE TOOLMAKING

The extensive range of standardised solutions for large mould construction includes attachments that take into account the standards of automotive manufacturers. These include different versions of deflectors or variants with end position control, the gas pressure spring stripper unit "Nitro Strip", various cutting and embossing elements as well as a comprehensive range of support

elements. Pre-positioning of the blank is one of the basic requirements for stable production. For low-wear processing of high-strength sheet metal, we offer hardened versions. Specially designed gas springs as well as a stripper bush, which can be obtained according to customer data with machined inner and outer contour, ensure the high force and individualised adaptation into the

tool at the beginning of the cutting process. These advantages are now also being used by the VW automotive group, where we are listed with our development.



Click here for the brochure





SAVE DATA CREATE TRANSPARENCY OPTIMIZE PRODUCTION



04464754323535

6547598567536

9765867867

LET IT FLOW



YOUR ADVANTAGES:

- ✓ Digital monitoring of flow, temperature, and pressure
- ✓ Higher flow capacity
- ✓ Higher temperature range
- ✓ Data storage and -export
- ✓ Faster tool exchange due to standard data
- ✓ Data transparency
- ✓ Standard interfaces

FASTER, MORE PRECISE, BETTER...

Flosense offers a lot of advantages to anyone planning to replace analogue measuring systems for injection moulding machines with digital flow monitoring in the course of digitalisation. Here, the user has access to real-time data from production such as for example pressure, temperature, and flow rate, which are digitally monitored with sensors and are visualised in detail on a screen. An alarm function guarantees a constant

process- and component quality and can either generate a visual or acoustic signal or stop the injection moulding machine. Thanks to a new sensor variant with a flow rate of 0,5-10 l/min the system Flosense now also offers the possibility of guaranteeing optimum process monitoring of these temperature control circuits in sensitive areas such as near-contour coolings.

YOU ALREADY KNOW,

how can you monitor your injection moulding process and make optimizations from the data obtained?

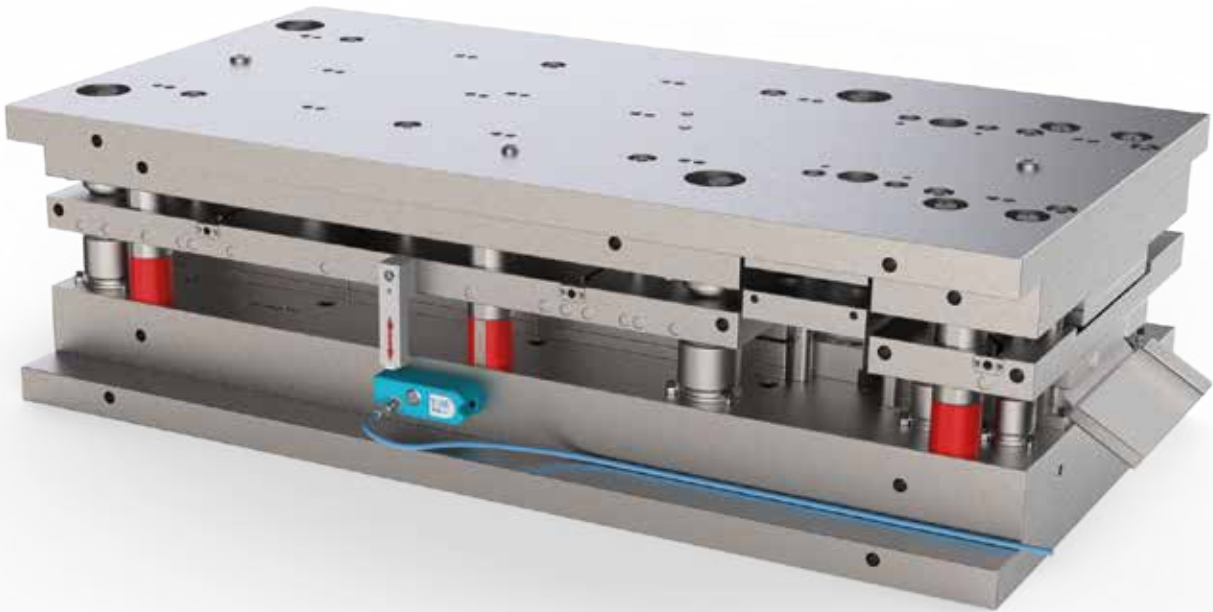


@CODAN Medizinische Polymertechnologie GmbH

DIGITALISATION OF TOOL DATA? BUT SAFE!

SAFELY OPTIMIZE PRODUCTION WITH SMART SOLUTIONS

Our next step towards industry 4.0: our new hardware and software solution that digitally records critical core sizes in your company and documents them in your own company network.



Optimized sequence of orders and automatic adjustment in case of modifications ensure an efficient production



WHAT IS **TiM**[®] by STRACK tool information monitoring

TiM by STRACK is our hardware and software solution that digitally records confidential, critical parameters for the first time. TiM is not cloud-based but documents and stores the information in the company's own network. The goal is to transparently record digital data on tools and to draw conclusions for optimizing processes. In this way, more efficient maintenance planning takes place in order to reduce downtimes significantly.

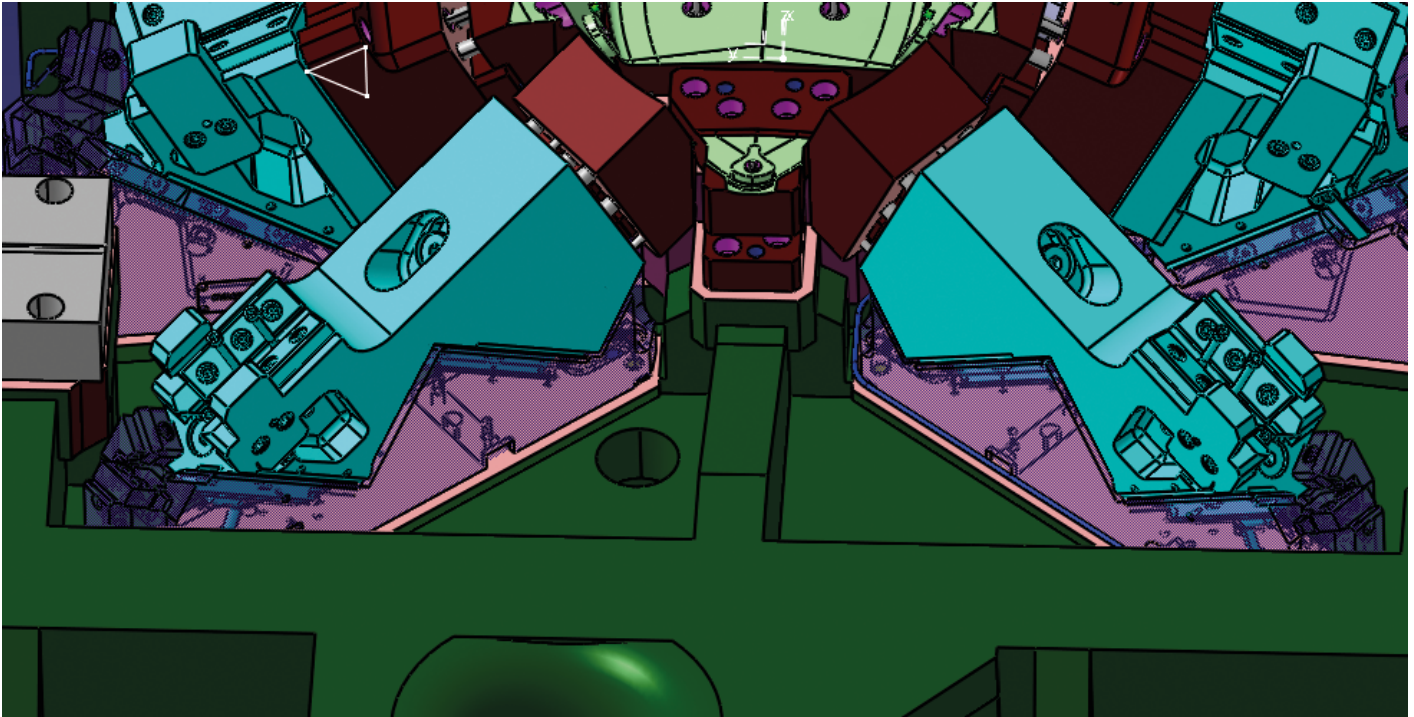
YOUR ADVANTAGES:

- ✓ More efficient maintenance planning
- ✓ Increased productivity
- ✓ Reduction of maintenance cost
- ✓ Digital documentation of tool data
- ✓ Less downtimes
- ✓ Data transparency



Click here for the **explanatory video**

CONSTRUCTION TIP



Good absorption of lateral forces with extended guide in compact design

MULTIGUIDE POWERMAX® CAM PMOM

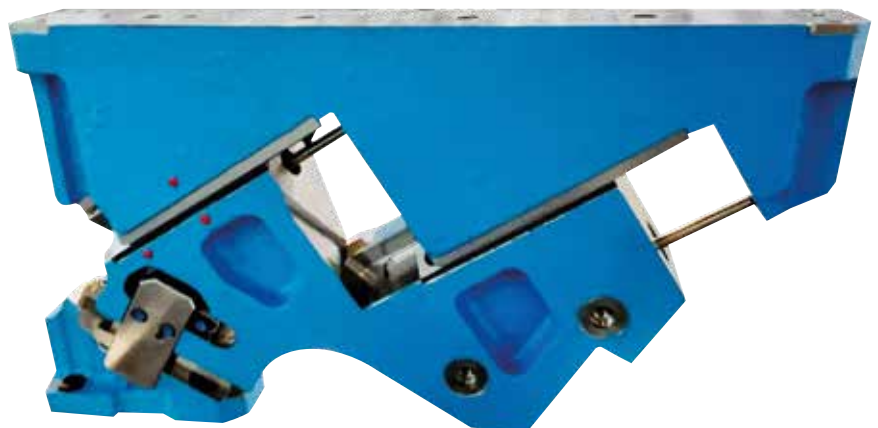
Many product ideas result for example from problems that occur in practice. Thus, we supplemented our product series PowerMax® by the Multiguide Cam PMOM. The new cam makes it possible to carry out a machining inside the tool, even with a large distance to the driver.

Since 2008 the PowerMax® standard cam program has been optimally geared to the high force- and quality requirements in the automotive industry and offers at the same time every designer a high degree of flexibility in design with a large selection of special solutions. While the standard cam program already covers a wide range of sizes and cam angles, an individual adaptation to the tool environment is often inevitable.

With the new PowerMax® Multiguide a new special cam is integrated into the market that can bridge the waste chute and allows a machining inside the tool, while still providing a guide to the tool upper part. This makes it possible to

punch a hole, for example, even with a large distance to the driver. Due to its offset double guide the lever arm for lateral forces occurring on the screwed-on tool is significantly reduced and absorbed in the cam. The offset step guide reduces the height of this design drastically. The installation height of the PMOM is very low which is very conducive to the

use of the cam. Adaptations can be made individually. The proven advantages of the STRACK cams such as compactness or power also apply for this variant. Thus, the way is free for your case of application. We will be glad to take care of your design and create a suitable model for you. The whole thing is free of charge for you and therefore profitable in any case.





STANDARD PARTS FOR CLEAN ROOMS

A CLEAN THING

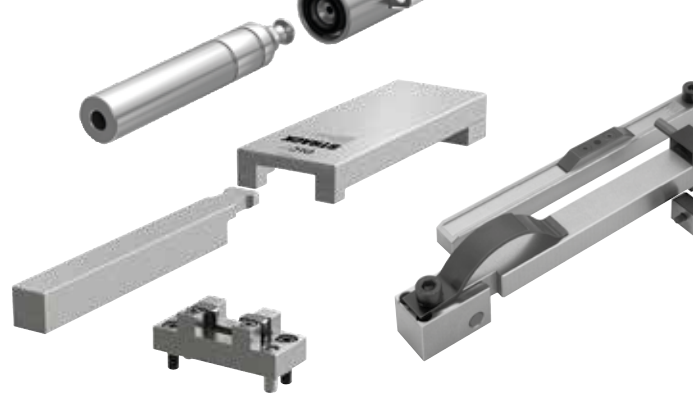
Dust- and germ-free is produced in the individual classes of cleanrooms. It is well-known that under these production conditions, the human being is the biggest source for the introduction of undesirable dust particles and germs. Especially for these sensitive production conditions we developed special standard parts for the medical- or electrical engineering and for the food industry. These are characterized by a very low maintenance effort, which significantly reduces the risk of particle- and germ emission.



FROM THE REGION FOR THE REGION

During the Corona pandemic we have worked together with four companies to produce protective visors, so-called face shields for customers in the medical- and private sector. The **MEDIShield** is made of a skin-friendly PP material with antibacterial setting and is particularly interesting for hospitals, doctors' surgeries, and old people's homes. In order not to lose sight of environmental considerations in these difficult times, a second variant has been created: the **GREENShield**. The holder of this protective visor is made of compostable material and is thus 100 % degradable. It is distributed by the medical technology company UTK Solution from Lüdenscheid.

SAFE DEMOULDING



OUR LATCH LOCKS

Demoulding elements convert the movement of the injection moulding machine into controlled movements of the parting planes and plates. The manifold requirements of increasingly complex designs demand adapted movement sequences, which our team implements in special designs of latch locks.

Customized designs, a wide range of combination options, special dimensions for all variants - with an extensive repertoire of latch locks we offer our customer advantages in terms of economic efficiency and production reliability.



SWITCHING FOR THE FUTURE

Limit switches have been part of our product range for more than 25 years and are used in a variety of applications in tool- and mould making. They transmit monitoring functions and starting signals to the machine control. These signals are generated by mechanical or inductive (non-contact) switches. The extensive range of limit switches and accessories is characterized by its variety of variants and high-quality components.

REACH YOUR GOAL EASIER WITH STRACK CONFIGURATORS

With the product configurators on the STRACK homepage, you can find the right product for your individual application quickly and efficiently. On our website www.strack.de you can configure the right limit switch for your suitable application in just a few clicks.



Click here for the YT video
"Team demoulding elements"



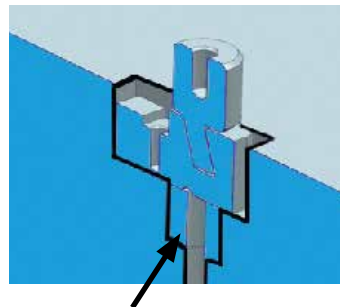
SIMPLIFICATION OF DESIGN



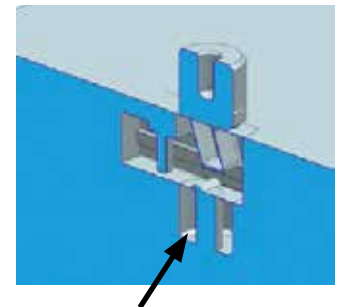
WE ARE EXPANDING OUR OFFER OF CAD DATA IN THE STANDARD PARTS' LIBRARIES

Standard part libraries have become an indispensable part of the everyday life of design engineers. By using standard parts, design becomes faster, more flexible and errors can be avoided. In addition to the proven CADENAS CAD library, STRACK has further expanded its portfolio. Besides to already existing CAD data, the data for all demoulding elements have now been integrated into CAD systems **CREO PARAMETRIC**, **SIEMENS NX** and **VISI** and will continuously be extended by further standard parts in the future. The integration of STRACK standard

parts directly in the CAD system offers additional advantages. Thus, in addition to the fully parametric 3 D data, the trigger bodies are also integrated, so that an additional time-consuming processing of the plates and components is no longer necessary. The standard parts can be flexibly adapted to the required size via tables. This permits an efficient working method especially as the trigger bodies also move flexibly during positioning. Integrated in the CAD system offline working is also possible in addition to the online solutions.



Create pocket activated



Create pocket not activated

OUR DATA IN THE DIRECTLY INTEGRABLE STANDARD LIBRARIES

YOUR ADVANTAGES:

- ✓ Immediate use of the standard parts
- ✓ Time-saving and flexible design
- ✓ Quick execution of activities in the areas of tool assembly and standard parts installation
- ✓ Modification or exchange of the standard parts possible without further additional effort
- ✓ Direct forwarding of data to the production for machining and processing
- ✓ Automatic creation of part lists
- ✓ Improved quality by standardisation of designs
- ✓ Native CAD program
- ✓ Direct integration of the STRACK standard parts library into the respective system possible

BAYONET CATCH INSTEAD OF CONSTANTLY USING CLAWS



REDUCING SET-UP COSTS BY FASTER CLAMPING

With our new quick action clamping systems for injection moulding machines, we offer our customers innovative solutions to reduce set-up costs and create a high flexibility for the user due to quick and easy mould changes.

By means of the quick action clamping systems, moulds are positioned and clamped quickly and easily in the injection moulding machine. The system clamping plates are firmly connected to the mould via torsion-free clamping by means of inclined eccentrics. The proven mechanical system for injection moulds is suitable for two- and four bar versions as well as for tie-bar-less injection moulding machines of all market-leading machine manufacturers. The quick action clamping systems can be used up to a maximum clamping force of 1000 kN and a total weight of 1000 kg. In addition, they can universally be used horizontally or vertically, depending on the type of injection. According to Euromap 2, the quick action clamping system have eight fixing holes per plate as standard. Besides to its standard system Z8060 STRACK now also of-

fers two new variants: while the Z8061 variant was designed for the clamping area between the machine tie bars of injection moulding machines, the variant Z8062 covers the complete clamping area of the machine clamping plate. The conversion effort with existing injection moulds is low, as only the existing centring flanges are exchanged with the corresponding centring flanges Z8071/Z8073 and adapted. Further mould modifications are not necessary. Retrofitting is quick, easy, and cost-effective. Hydraulic or electrical interfaces to the injection moulding machine are not required. The clamping of the mould takes place in a few seconds without much effort. From the operator's side the clamping lever is moved manually via a bayonet catch. Clamping by simply moving the lever instead of the time-consuming use of claws or screwing to the clamping plate of the injection moulding machine reduces the set-up time considerably. In addition, we also manufacture special designs according to customer requirements with and without tie bar recesses, up to a plate size of 796 x 696 mm.

Designs such as variants with special screw holes or tempering holes are possible on request.



Click here for our quick action clamping system product video:



Roll the film!

POSITIVE ENERGY BALANCE THANKS TO STANDARD PARTS



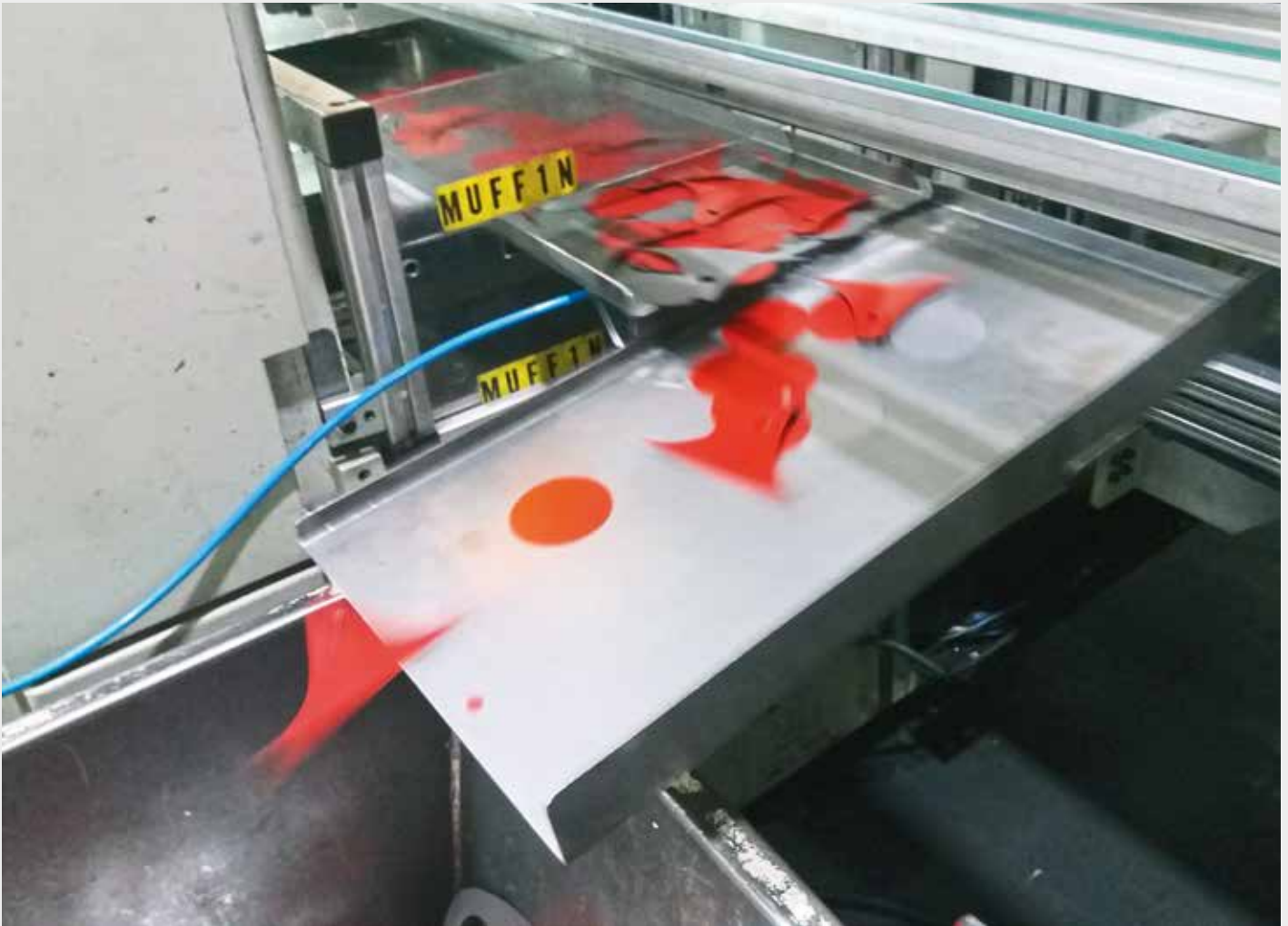
PNEUMATIC LINEAR CONVEYORS HAVE A LOW ENERGY CONSUMPTION

We often hear that compressed air is an extremely expensive form of energy. But that is not true in such a general way. There are applications in which the compressed air drive is on a par with, or even superior to the electric drive. It is therefore worthwhile to distinguish precisely between the performance requirements to assess when a drive using compressed air is also cost-effective in terms of energy consumption. An important criterion here is the size of the displacement in connection with the stroke to be performed. The smaller the drive can be dimensioned here, the more efficiently the advantage of compressed air can be exploited by applying high force in the smallest possible space.

The dual drive concept of the pneumatic conveyors of STRACK is convincing by

the fact that compressed air is only applied to the piston for the pre-stroke. The energy stored in the springs is then used for the return stroke without pressure, thus halving the energy requirement once again. Linear conveyors work on the principle of static friction. In the forward stroke, a carriage accelerates towards the transport trough at a speed greater than the static friction of the part to be transported. In the return stroke the speed is reduced so that the part is transported from the transport trough by the return stroke (=transport path). Therefore, linear conveyors work with very short strokes of 30 mm. There are physical limits to the theoretical transport capacity in practice. The higher the part weight, the greater the inertia of the part to be transported. After the part hits the transport trough, the transport speed should not be greater than the static friction of the part

to be transported. Due to the physical conditions, it shows that a too high conveying speed (number of strokes) has a negative effect here. The parts to be transported start to vibrate on the transport plate, depending on the condition of the trough. Suppliers of electric part conveyors often like to show high stroke frequencies, but these are not physically feasible. A stroke number which is too high, cancels out the physical principle of the linear conveyor, as no sufficient static friction can be created. In practice, stroke rates of 90 to a maximum of 200 strokes per minute have proven to be suitable for a device stroke of 30 mm. This corresponds to a transport performance of approximately 2,7-6 m/min. The main force of the transport (return stroke) is purely realised by spring force whereby the spring pre-tension is used in addition to the applied piston force. Other designs availa-

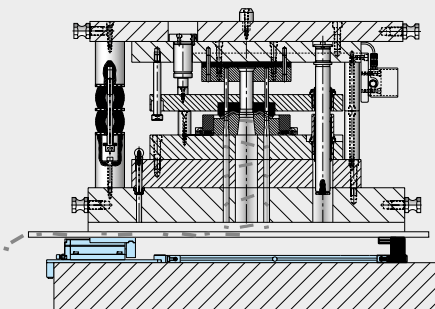


@W.F. Kaiser u. Co. GmbH

ble on the market use compressed air pistons for both strokes. This principle requires an additional trough inclination which has a negative effect on the installation height. Another advantage of the spring-loaded stroke (transport) is the utilisation of the residual pressure in the piston chamber when switching to the forward stroke. The piston chamber is slowly vented via a throttle valve

and the compression springs pull the carriage with constant acceleration to its rear switchover point. However, the piston chamber is not completely emptied, but a residual volume remains in the rear piston chamber which must not be supplied again in the next stroke. This again reduces the compressed air requirement. Another advantage of the dual drive concept of the STRACK linear

conveyors that should not be underestimated, is the maintenance friendliness. Since wear is essentially limited to replacing the return springs and O-rings of the piston after a few thousand operation hours if the conveyor is correctly supported and the operating parameters are adhered to, the costs are also low here. Moreover, this maintenance work can easily be carried out in-house.



YOUR ADVANTAGES:

- ✓ Low acquisition costs
- ✓ Low energy consumption
- ✓ Good adaptability to installation space
- ✓ Sorting options can be integrated
- ✓ No damage to the transport trough due to sharp metal sheets
- ✓ Easy maintenance and repair

OUR STRACK YOUNGSTARS



This year's apprentices 2022: Niklas Amende (2nd apprenticeship year as system integrator), Lirjeta Fazliu (1st apprenticeship year as industrial business management assistant) and Kerim Özmen (4th year of apprenticeship as cutting machine operator)

TRAINING AT STRACK

Investing in training and further education is one of the focal points of our efforts to further promote the quality and motivation of our employees. We offer our employees a qualified, modern working place, a friendly and cooperative team as well as intensive training opportunities. Building our own skilled workforce and fostering team spirit are crucial to the progress and success of our company. This philosophy also prevails during the apprenticeship where independent work and project-related activities are part of the job description.



BECOME PART OF OUR TEAM TOO!

Then apply now
at www.strack.de

OUR APPRENTICESHIPS

- **Industrial business management assistant (m/f/d)**
- **Cutting machine operator (m/f/d)**
- **System integrator (m/f/d)**
- **Warehouse operator (m/f/d)**

THE TEAM IS STRENGTHENED

AN INTERVIEW WITH OUR NEW FIELD STAFF

BENJAMIN VOSS

Responsible for the areas:

Rhineland, Ruhrgebiet West, Bergisches Land, Westfalia, Sauerland, Rhineland-Palatinate



DESCRIBE YOURSELF IN 3 HASHTAGS:

#open #communicative #respectful

WHY STRACK?

Here I can use my knowledge and my network in a traditional company and develop myself further. Strack is down-to-earth, has flat hierarchies and great colleagues in all areas. I would also like to make my contribution to living values and continuing tradition.

MY RESOLUTION FOR THE YEAR 2023:

Take customers at their word and expand relationships/networks. Furthermore, I want to take on responsibility and get even more involved.

FLORIAN SCHULZ

Responsible for the areas:

Berlin, North-East Germany, Thuringia, Saxony, Saxony-Anhalt



DESCRIBE YOURSELF IN 3 HASHTAGS:

#committed #helpful #full of the joys of life

WHY STRACK?

While looking for a new challenge I found STRACK. What really convinced me was that STRACK is a family-run company, which can look back on 100 years of company history. Due to the flat hierarchies in the company, it is possible to find quick and simple solutions for the customer in the shortest possible time. I have the feeling that my ideas and approaches are heard in the company and that we work together on the development of the company.

MY RESOLUTION FOR THE YEAR 2023:

I would like to strengthen the Strack "brand" in the eastern region and create positive sales development. Especially at the present time, when there are many new challenges, I would like to show our customers that we at Strack Normalien are a reliable partner at their side.



COMPACT PACEMAKER

Undercuts in the multi-component injection moulding process can be problematic particularly when the demoulding of two materials is not possible by means of standard parts. A new compact slide from STRACK NORMA for 2 moulds counteracts the problem.

Shaping granulate and doing so with the highest possible quality and at the same time efficiently. For years, this objective has been perfected with the help of injection moulding processes of various types. In these processes the respective material is plasticized with an injection moulding machine and injected into a mould, the injection moulding tool, under pressure. Over the years, the requirements on the components to be produced in this way have become more and more complex. The higher expectations of customers in terms of design, functionality and haptics are constantly leading to new challenges. For years, components have been made of more than just one plastic material. Viewing windows made of transparent plastics such as PC, PET, PMMA or softer grip surfaces on handling components as well as plastics of different colours have

ceased to be a rarity for a long time. A solution for bringing together several colours or materials is offered, for example, by multi-component injection moulding which continues to improve plastic parts in terms of design and function.

WITH 2K- INJECTION MOULDING REWORK AND ASSEMBLY PROCESSES ARE ELIMINIZED

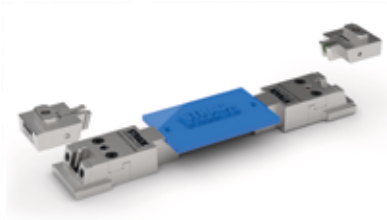
The multi-component injection moulding makes it possible to produce components from several different plastics. When two materials are combined in one mould, it is referred to as 2K or "two components". This application requires that different material properties, for example, hard and soft plastics are joined together in an identical manufacturing process. One of these processes is the "Overmoulding" in which two thermoplastics are injected

against or over each other. In principle, the elimination of reworking- or assembly processes is an essential advantage of 2K injection moulding, but it is only one of several. Due to the combination of several materials already during the injection moulding, the process is overall economical, productive and leads to stable processes. The design-technical combinations of plastic components require continuously new ways of thinking from the mould designer to solve the problem, because now, instead of one plastic, two different materials have to be processed. A special challenge are here the undercuts. Undercuts are disturbing elements that form during the demoulding. Problems resulting from them have so far been successfully solved in various ways, for example by means technical equipment from the in Lüdenscheid-based standard

parts specialist STRACK NORMA. These include primarily slide units which are available in a wide variety of designs, for example as the Z4290 compact slide unit. However, it becomes particularly problematic when the demoulding of the undercut of two different materials cannot be released by standard parts. Because the mould must always be rotated between the two injection processes before the finished part is ejected, the slide for the undercut must not release it until the second component has been injected and the mould has been opened again.

KINEMATICS OF THE 2K- SLIDE REPRODUCES TWO PROCESSES IN ONE CYCLE

STRACK has now developed a 2K- slide called Z42900 to solve this problem. It consists of a set with two pressure pieces and two slides with an attachment for adaptation by the customer. One of the pressure pieces is supplied without a retraction element, the other with retraction clamps. These adaptable slide inserts are available in the materials 1.2767 and 1.2343. The first slide, which releases an undercut at 2K injection moulding parts is brought into the forward position by the first pressure piece (without retraction element). After injection of the first plastic component the first slide is not retracted with the first pressure piece as usual when opening the tool but remains in the forward position! After the mould has rotated and is closed again, the second pressure piece with integrated retraction clamps holds the slide in position for injecting the second component. After the injection cycle, the pressure piece with the built-in retraction clamps pulls the slide back to its original position when the mould is opened. The set is completed by a second slide to be able to reproduce both injection moulding processes in one cycle. This means that one slide is available for each of the two plastic components, which ultimately allows a smooth production process in one mould.



SPACE-SAVING SLIDE SOLUTION OFFERS CLEAR ADVANTAGES TO DESIGNERS

The use of the advanced Z42900 2-component slide offers several advantages to the designer, who can now respond even better to individual applications in multi-component injection moulding. Due to its compact design the slide is currently unique on the market. It makes it possible to demould undercuts in all multi-component injection moulding applications much faster than before.

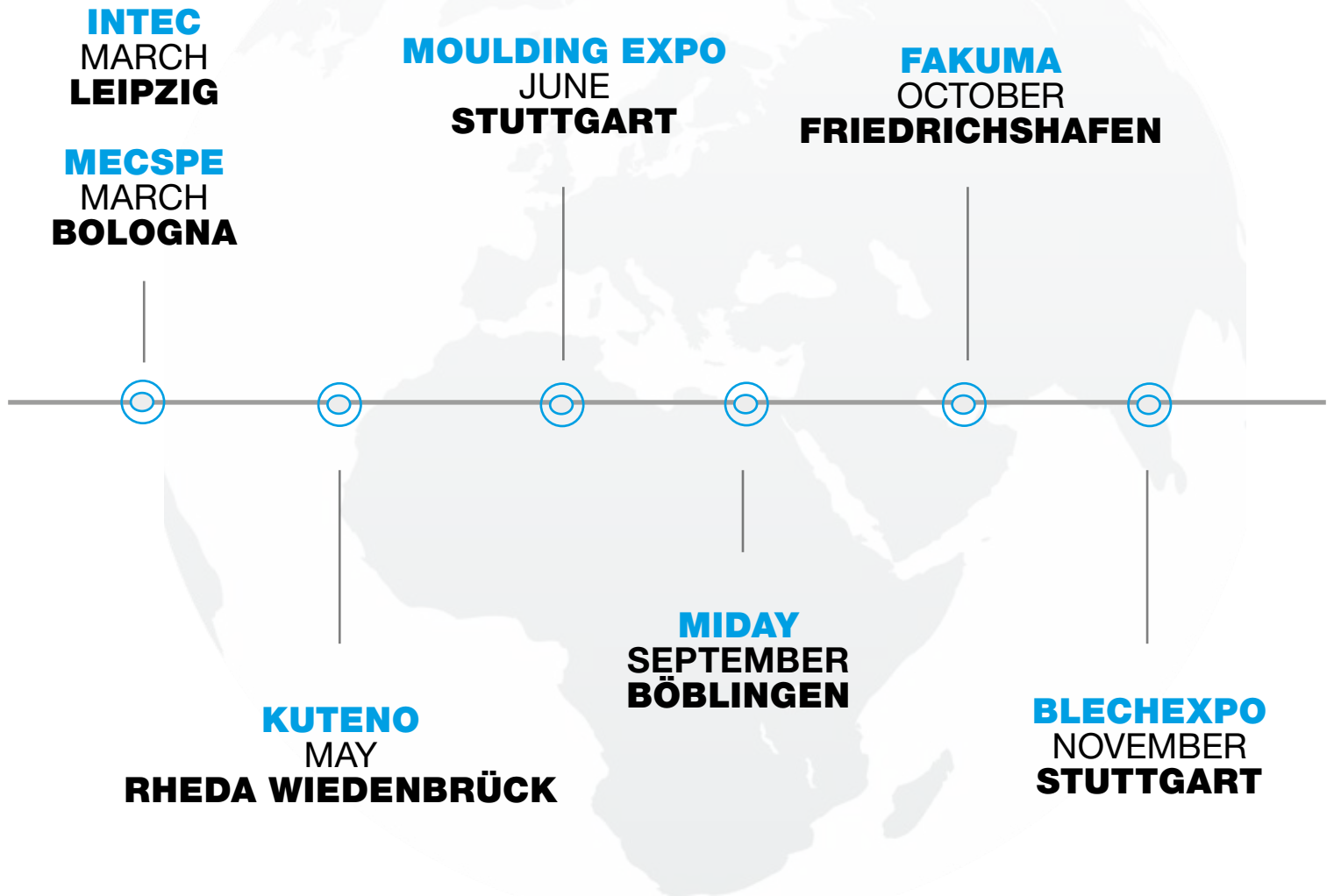
@ Form+Werkzeug 4/22 , Carl Hanser Verlag

Four-stage functional sequence (starting at the top): Mould moves together, injection of the first component with undercuts, mould rotates in second position and move together, injection of the second component with undercuts.

Click here for our **explanatory video:**



PREVIEW OF TRADE FAIRS AND EVENTS IN 2023





TOGETHER WE ARE STRACK!

On 12 September 2022 we took advantage of the good weather to sit together with all the staff in the sun with a bratwurst and a cold drink. Thanks were expressed to all staff members for their commitment during the past year.



Find out more here:



WE TAKE RESPONSIBILITY FOR OURSELVES AND OUR ENVIRONMENT IN THE HERE AND NOW AND ALSO, FOR THE FUTURE

We take responsibility for our actions towards the environment and have laid this down in our corporate mission statement. With our well-established environmental management system, developed in accordance with DIN EN ISO 14001, we ensure that our environmental efficiency is constantly developed through continuous improvements. With the latest generation of machines and environmentally friendly, energy-saving processes, we create ecological added value.

DID YOU KNOW?

We regularly share the latest information on our social media channels.

You are welcome to have a look!

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