# WEISS NEWS

2 / 2015

**Motek Highlight TC** The new generation of rotary indexing tables **The WEISS brand** Interview with Uwe Weiss **Direct-drive rather than pneumatically driven** Automated assembly system for electromechanical sensors from UBH Mechanical Engineering with components from WEISS **Field service team** Your local personal consultant throughout Germany

**INSPIRING PEOPLE – GREAT SOLUTIONS**

## WITH A STRONGER HEART
## WITH A FASTER PULSE
# THE NEW TC

# THE NEW GENERATION OF ROTARY INDEXING TABLES

INCREASE THE PRODUCTIVITY OF YOUR AUTOMATION SOLUTION WITH IMPRESSIVE SPEEDS AND THE KIND OF POWER DENSITY THAT HAS SIMPLY NOT BEEN AVAILABLE BEFORE.

Our electromechanical rotary indexing tables today enjoy a legendary reputation. This has been earned through the exceptional robustness and high quality of the TC range, which help secure the high degree of reliability offered by the tables.

With the new TC, our engineers once again invested their entire expertise and succeeded in raising our TC range of electromechanical rotary indexing tables to a new level. This new model is the most durable, powerful and fastest TC we have ever built. We presented our power product for the first time at the Motek fair. It will then be generally available from the start of next year.

**Matthias Poguntke is keen to maximise innovation in the future development strategy at WEISS.**

"Our goal with the new TC range is to cover all customer requirements as effectively and precisely as possible, while offering even greater performance and speed."

MATTHIAS POGUNTKE
Vice President Global Engineering & Product Management

# GREATER PERFORMANCE

# GREATER POWER

# GREATER EFFICIENCY

The enhanced TC model range brings new dimensions of efficiency to your automation solution: **up to 20 % faster cycle times – up to 90 % more performance in the same space.**

# STRONGER. FASTER.

**A GENUINE WEISS**

Tried and tested TC quality thanks to excellent in-house manufacturing at the Buchen facility.

Retrofit option: 100 % compatible due to identical interfaces as its predecessor.

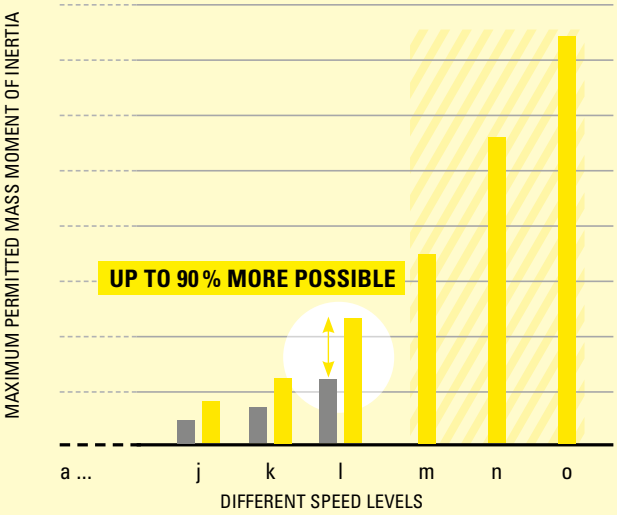
## MORE POWER IN THE SAME SPACE

Does the main challenge of your automation solution lie in the transport of extreme loads? If so, this is no problem for the TC. Our new power product can handle virtually double the mass moment of inertia of its predecessor. Depending on application parameters, it boasts as much as 90 % more power. In concrete terms, this means it is often possible to use a smaller table than your previous solution to perform the same task. This not only saves you money in terms of acquisition, but also space.

## INCREASED PRODUCTIVITY THANKS TO SHORTER CYCLE TIMES

Does your automation solution require many stations to be operated within a short space of time? If so, you can also use the TC here. Its performance has been increased for high-speed applications in such a way that it offers up to 20 % shorter cycle times than its predecessor – while maintaining the same permitted mass moment of inertia. The improved cycle times increase the productivity of your entire installation one-to-one.

## DOUBLE THE LOAD CAPACITY OVER ITS PREDECESSOR



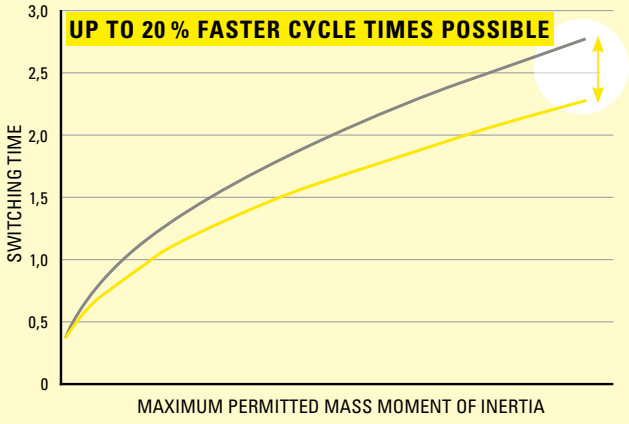

Increased maximum mass moment of inertia on the new TC 700 over its predecessor

With the new TC, we have succeeded in significantly increasing the maximum permitted mass moment of inertia. Depending on the application, by up to 90 %, as is the case here with the TC 700.

THE NEW TC
PREDECESSOR

**The table for complex processes**
The new TC 700 has been provided with three additional speed levels – other model sizes such as the TC 320 even more: the level s for fast cycles when processing small loads. For all models additional standard indexings are available. Complex processes can therefore be completed on a single table, so there is no need for other processing stations.

## COMPARISON OF THE NEW TC: FASTER SWITCHING TIMES – GREATER PRODUCTIVITY




Comparison of the switching times that can be achieved on the new TC 320 and its predecessor of the same size

High-end performance for high-speed applications: The new TC is capable of delivering up to 20 % greater throughput than its predecessor.

THE NEW TC
PREDECESSOR

# "WE ARE MAKING OUR BRAND VALUES VISIBLE."

**MR. WEISS, WEISS GMBH IS TODAY A LEADING GLOBAL PLAYER. BUT HOW DID IT ALL BEGIN?**

It started 50 years ago with my father. He had a vision of creating rugged rotary indexing tables. Since this time, our technical approaches have continued to drive the industry forward. A lot has changed since then, although one thing has remained the same. Every product that leaves our company is durable and robust. This is something we are proud of. Indeed, we are generally regarded as extremely reliable. This not only applies to our products, but also our company, its consultants, its people.

**IT IS CLEAR THAT TASKS ARE BECOMING EVER MORE COMPLEX. SO IS THE IMPORTANCE OF CUSTOMER CONSULTING ALSO INCREASING AT THE SAME TIME?**

We could perhaps summarise this as follows: We used to be a component supplier, but today we are a solution partner. Our consultants reside between the requirements of our customers and the solution potential of WEISS. As professional partners and intelligent companions.

**IS YOUR SECTOR EXPERTISE ONE OF THE COMPANY'S KEY SUCCESS FACTORS?**

Yes, sector expertise is extremely important. For us, it is generally a form of customer proximity. We engage our customers close up. Spatially, professionally, humanly. We already offer automation solutions tailored specifically to each customer. And we are working on sector-specific system modules that can be integrated seamlessly in existing overall systems.

**SO TAILOR-MADE AUTOMATION SOLUTIONS ARE BECOMING INCREASINGLY IMPORTANT?**

Yes, absolutely. For us, it is about developing solutions that hit the right point. Technically and econom ically. Not only must they deliver optimum technical performance, they must also be economically prudent. For example, if a manufacturing system in China has to be fully dismantled again after three years, no customer is willing to pay for a solution that has been designed for an operating period of 30 years.

**YOU MAINTAIN GERMAN ROOTS, YET OPERATE A WORLDWIDE PRESENCE – HOW DO YOU DO THIS?**

We come from Germany, but are at home worldwide. With our network of subsidiaries and offices, we are never far from any of our customers. Service and support are generally performed in line with local conditions and practices. We are also very close to our customers from a cultural perspective. This goes far beyond communicating in the respective official language – for example including country-specific product portfolios.

**SO WHAT FORM WILL THE COMPANY'S STRATEGIC ALIGNMENT TAKE IN FUTURE?**

I could talk about this all day, but I will keep it short. We are keen to inspire and impress our customers. We are just as passionate about this today as we were 50 years ago. With products, tailored services, comprehensive expertise. And of course with employees that are passionate and give their best every single day. This is the "World of WEISS".

**The WEISS brand is to receive a new image. Photo shoots will take place at WEISS, at our customers' sites and throughout the world. Learn about the creation process. The "making of" explains more than can be seen from the high-gloss photos …**

# » FROM COMPONENT SUPPLIER **TO SOLUTION PARTNER «**

**OWNER UWE WEISS DISCUSSES THE NEW STRATEGY**

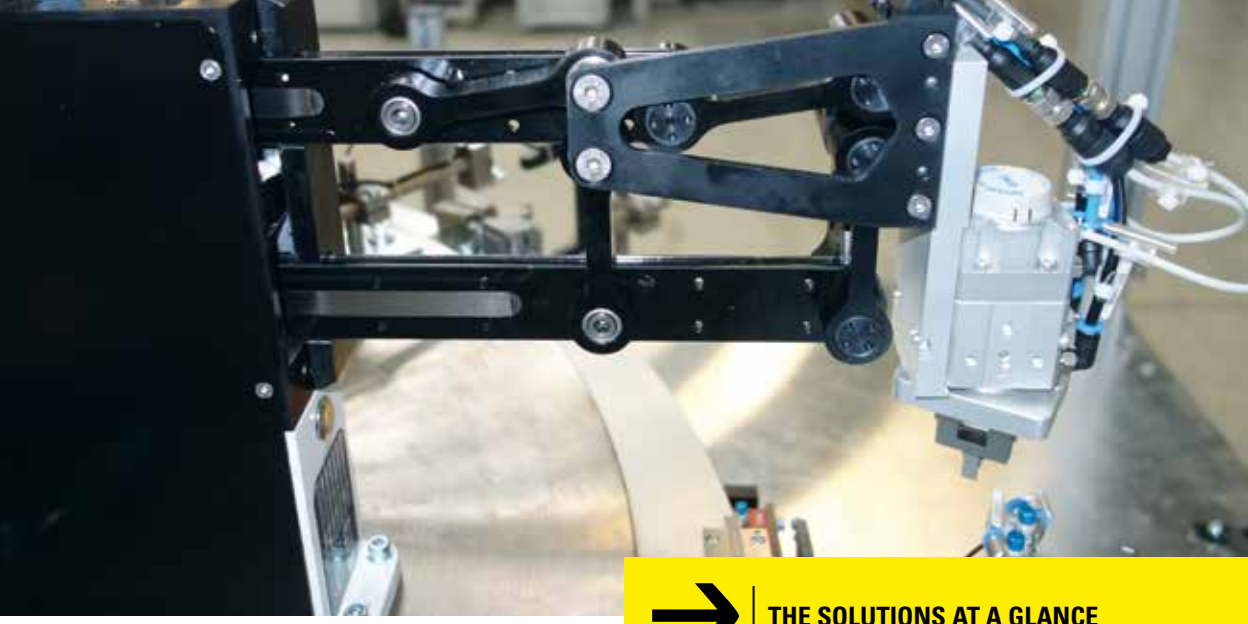
# PICK & PLACE: DIRECT DRIVE RATHER THAN PNEUMATICS

IN, OUT, FORWARDS, BACKWARDS – THE ASSEMBLY OF MICROSWITCHES IS A BIT LIKE THE PRODUCTS THEMSELVES: CONSTANTLY JUMPING BACK AND FORTH BETWEEN TWO FIXED POSITIONS, PICK & PLACE. THERE WAS A VARIETY OF REASONS BEHIND UBH MECHANICAL ENGINEERING'S DECISION TO OPT FOR USER-PROGRAMMABLE, DIRECT-DRIVE HP PICK & PLACE MODULES FROM WEISS INSTEAD OF THE USUAL PNEUMATIC MODULES.

"The energy costs were one of the main arguments in favour of WEISS," explains Siegfried Schwarzer, Managing Director of UBH Mechanical Engineering GmbH. "Our customer EMS places great emphasis on low energy consumption for its microswitch assembly plants." Classic custom machine builder UBH Mechanical Engineering, based in the Bavarian village of Ebermannsdorf, manufactures assembly and packaging plants and testing systems with integrated processes for small to medium-sized components for the automotive, electrotechnology and solar industries. Although it only entered the market in 2005, UBH Mechanical Engineering already boasts a loyal customer base. Indeed, the plant for EMS, a manufacturer of electromechanical switch sensors, is already the fourth of its kind. Schwarzer not only puts this success down to his team of 25 young, experienced employees, but also to his suppliers. "We cannot and do not wish to approach new suppliers for each and every job," says Schwarzer, explaining his concept. "Instead, when purchasing parts, we place our trust in a small number of reliable partners and work with them to develop solutions for the latest challenges." WEISS has been one of these partners since the very beginning. And Schwarzer has a simple reason for this: "In my opinion, the rotary indexing tables from WEISS are the number one." So it is only logical that rotary indexing tables from the Buchen company are also used for the latest microswitch assembly plant. Here, three fixed-speed TC 320 units set up in sequence form the basis of the custom machine.

» We cannot and do not wish to approach new suppliers for each and every job. Instead, we would rather place our trust in a small number of reliable partners. WEISS is such a partner. «

**Siegfried Schwarzer (on right in image), Managing Director at UBH Mechanical Engineering GmbH**



**The kinematic unit of the HP 70 enables a vertical stroke of 70 millimetres. The maximum horizontal stroke is 325 millimetres. Thanks to the programmability of the axes, every point within this operating range can be reached on freely selectable tracks.**

The challenge was in feeding the components via pick & place. "Until now, we have always used pneumatic modules for this purpose," explains Head of Design Tobias Döllner, "but the anticipated air consumption would have been very high at the specified cycle times of 1.5 seconds." This would lead to high operating costs. After all, compressed air is the company's most expensive form of energy. Electrical drives offer clear advantages in this area.

This happens to be just the area that the company's partner WEISS specialises in. The HP 70 and HP 140 pick & place modules from the Buchen company each combine two linear motor axes and fully utilise the advantages of direct drive technology – high dynamic performance, user programmability and the highest precision. On the HP 70, which has a width of just 60 millimetres, the two

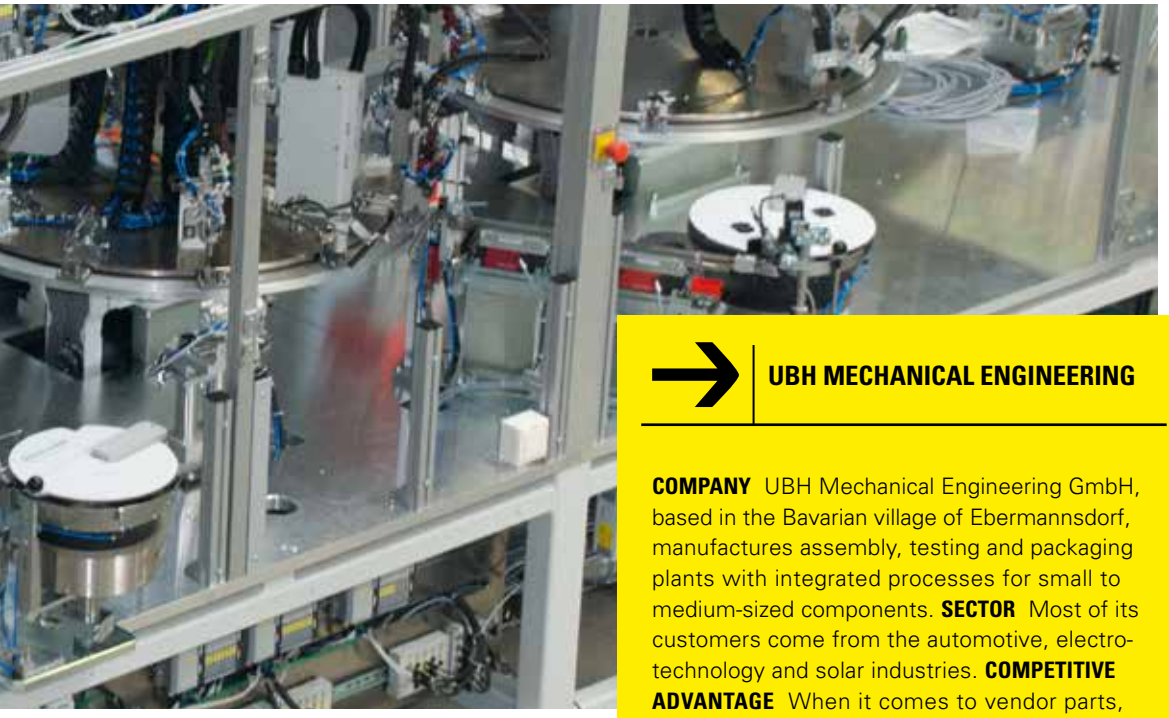
## THE SOLUTIONS AT A GLANCE

- **The automated assembly system for microswitches is based on three fixed-speed TC 320 rotary indexing tables from WEISS, which are arranged in series and are re-sponsible for workpiece transport.**
- **The feeding of individual parts, such as armatures, flappers, contacts and housing parts, is largely performed by HP 70 and HP 140 pick & place modules.**
- **At the required cycle time of 1.5 seconds, the direct drives of the HP pick & place modules offer superior energy efficiency over a pneumatic solution.**
- **Measurement systems sit directly on the axes and enable positioning accuracy of 0.02 millimetres. Indexing of the workpiece carrier is thereby no longer necessary – this would reduce cycle speeds.**
- **During the long strokes for passing the workpieces on from one rotary indexing table to the next, the linear motor axes of the HP modules are faster than pneumatic solutions thanks to their high dynamic performance.**
- **The user-programmability of the WEISS pick & place modules enables gentle acceleration, protecting the product from damage and reducing noise.**

**Automated assembly system for electromechanical sensors: 3 rotary indexing tables and 11 direct-drive pick & place units from WEISS. From a single source and perfectly matched to one another. The combination offers positioning accuracy of 0.02 millimetres.**

linear motor axes are arranged in parallel above one another and connected via a kinematic unit. Moving the axes towards each other allows a vertical stroke of up to 70 millimetres. By combining a vertical and a horizontal linear axis in the HP 140 model, this stroke is more than doubled, while the maximum payload increases to three kilograms.

Assembly of the microswitches is initiated by an HP 70, which inserts the armature into the tool holder of the first rotary indexing table. Another HP 70 then mounts the socalled flapper, i.e. the spring element that was previously punched out of a coil and bent into shape, before an HP 140 passes it on to the second rotary indexing table after performing several test and cleaning steps. After inserting the housing, the bottom contact is then positioned here, which demands an extremely high level of precision. "With the HP70, we achieve positioning accuracy of 0.02 millimetres – with a fixed support and without any indexing," enthuses Döllner. In this case, WEISS not only provides the HP 70 and a rotary indexing table with high positioning accuracy, but also the mounting plate – which of course was calibrated together with the rotary indexing table. After positioning the bottom contact, other elements and the armature assembly from table 1 are inserted into the housing with similar precision. The cover assembly is mounted, and the micro-



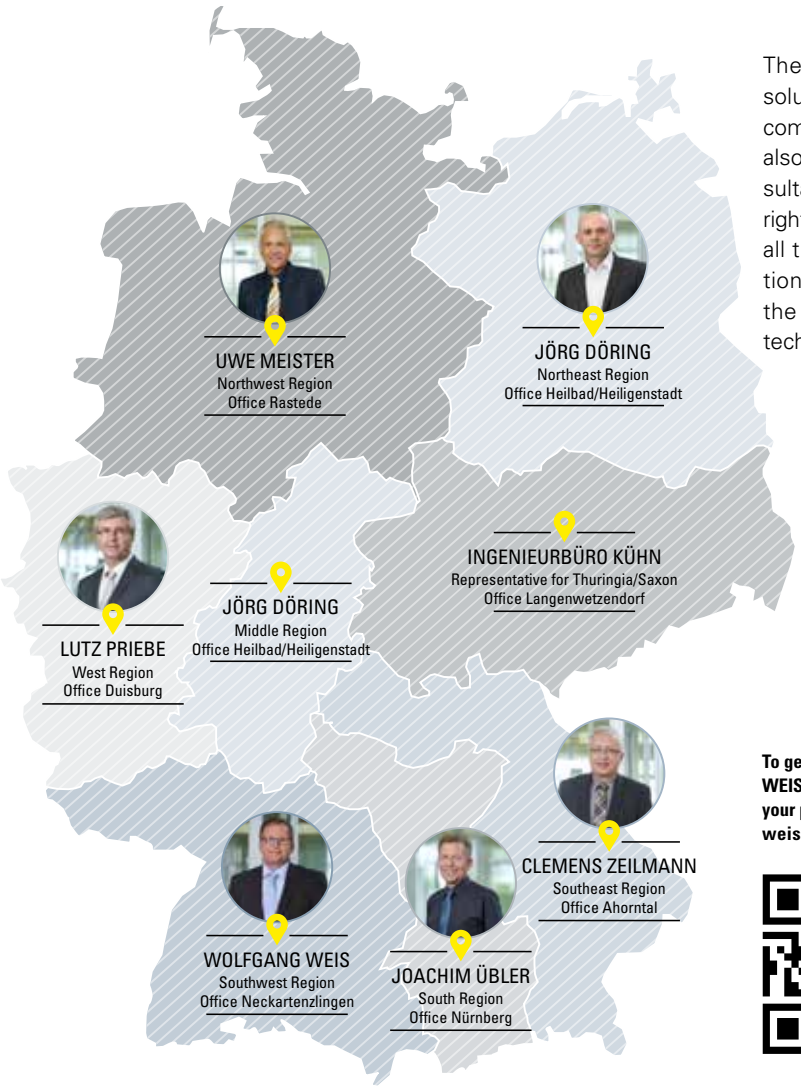
## UBH MECHANICAL ENGINEERING

**COMPANY** UBH Mechanical Engineering GmbH, based in the Bavarian village of Ebermannsdorf, manufactures assembly, testing and packaging plants with integrated processes for small to medium-sized components. **SECTOR** Most of its customers come from the automotive, electro-technology and solar industries. **COMPETITIVE ADVANTAGE** When it comes to vendor parts, UBH Mechanical Engineering relies on established partners, who are also actively involved in development.

switch is then forwarded to the third rotary indexing table with a long stroke for laser welding and final processing.
Thanks to acceleration of 40 m/s² and a maximum speed of 4 m/s, the HP 140 from WEISS executes the long stroke in 0.4 seconds without slowing down the overall system. On the HP units, the deceleration ramp and the entire acceleration characteristics can be freely programmed and optimised for soft strokes that are gentle on products and operator ears. This is ideal for UBH Mechanical Engineering GmbH. "The user-programmability of the HP pick&place modules that is offered by the WEISS Application Software allows us to adapt our processes to new product variants more or less at the touch of a button," explains a delighted Mr. Döllner. Thanks to the precision, energy efficiency, smooth running and high dynamic performance offered by the systems, "the air has gone out" of pneumatic systems at UBH.

# YOUR PERSONAL WEISS CONSULTANT

QUALIFIED LOCAL SUPPORT THROUGHOUT GERMANY




The requirements of automation solutions are becoming increasingly complex. However, project terms are also becoming ever shorter. Our consultants support you. In selecting the right products, configuring everything, all the way up to process optimisation. Always with a view to offering the optimum solution from both a technical and economic perspective.

**To get in touch with your personal WEISS consultant, simply enter your postal code: Scan here or go to weiss-gmbh.de/en/contact**

**No matter where in Germany you are located: you have a permanent contact assigned from our field service team.**