

2018

Press folder



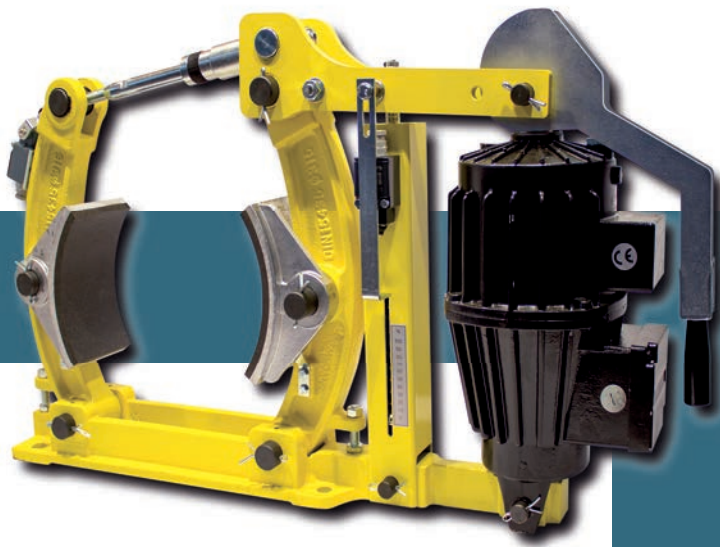
Januar

Enormous densification of performance

With the completed takeover of the Italian brake manufacturer Ostelectric at the start of the year, RINGSPANN has simultaneously achieved two important milestones of its overall strategy: Firstly, it means that the business group continues to pursue its strategy of internationalisation, and secondly, it rounds off its portfolio in the field of industrial brake technology. This means that, in addition to freewheels, shaft-hub-connections, overload and shaft couplings and mechanical remote control systems, purchasers of drive components will now also be able to find all common industrial brake models at RINGSPANN – including the suitable control systems.

The rapid internationalisation of the group and the systematic further development of the company on its path towards becoming a one-stop supplier for high-quality components of industrial drive technology are core aspects of RINGSPANN's overall strategy. "With the takeover of the brake manufacturer Ostelectric from Limbiate in northern Italy that was completed on 1 January of this year, we are taking a significant step towards achieving these targets", says Ernst Fritzemeier, the Director of Technology, Production and Procurement at RINGSPANN. While the Bad Homburg company has been offering an ever-growing selection of stopping, control and holding brakes in different designs for braking torques ranging from 0.5 to 325,000 Nm for more than 40 years, this latest takeover means it is now expanding its range of industrial brakes. Ernst Fritzemeier draws attention to the key point: "Ostelectric not only possesses a high degree of engineering and manufacturing expertise in the field of electro-hydraulic drum and disc





brakes, it specifically belongs to an established circle of manufacturers of electro-hydraulic lifting devices, which are among the most important functional elements of these brake types. This takeover thus also allows us strengthen our development and manufacturing expertise in that area."

Production site to remain near Milan

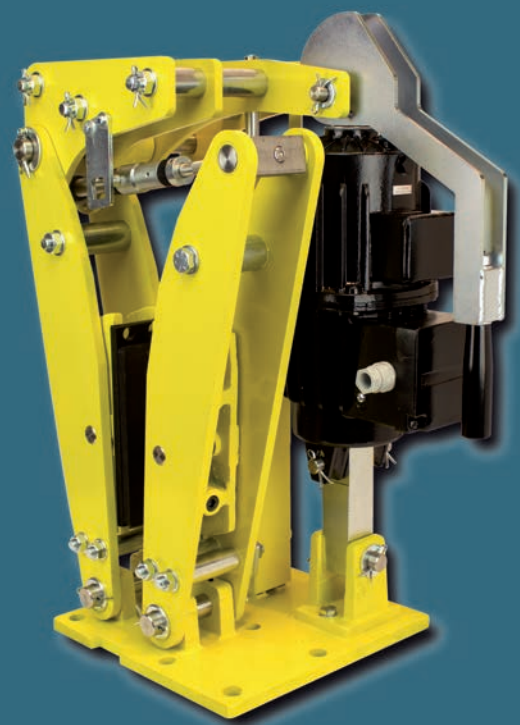
In the field of electro-hydraulic disc brakes, the RINGSPANN's industrial brake range now spans braking forces ranging from 200 to 19,900 Nm, while the selection of electro-hydraulic drum brakes now offers 230 to 7,200 Nm of braking torque. "The integration of the Ostelectric range in our portfolio results in an enormous densification of performance in our range of brakes, and at the same time means that RINGSPANN customers can with immediate effect get all relevant design and functional types of industrial brakes – including the suitable control systems", emphasises Ernst Fritzemeier.

The takeover agreement envisages keeping the production site Limbiate at Milan's doorstep, while transferring the wide-ranging brake expertise of the Italian manufacturer to the RINGSPANN headquarters in Bad Homburg. This process will be led by the previous owner of Ostelectric, Roberto Casini. As an expert of the international markets, he will furthermore be operating as a consultant for RINGSPANN for the next three years. The entire workforce of Ostelectric will be kept on and will operate under the personnel management of RINGSPANN Italia in the neighbouring municipality of Lainate.

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„Thanks to the takeover of Ostelectric, we are now also a manufacturer of electro-hydraulic lifting devices, which are amongst the most important functional elements of electro-hydraulic drum and disc brakes.“

Ernst Fritzemeier, Director of Technology, Production and Procurement at RINGSPANN



*Picture left:
Successful conclusion: The previous Ostelectric owner, Roberto Casini (right), and Antonio Trondoli (left), General Manager of RINGSPANN Italia, immediately after signing the takeover agreement*

Twelve models right from the outset

With the launch of its new online shop for freewheels, RINGSPANN is making life easier for all purchasers and engineers in drive engineering. In addition to the company's more than 100-page long product catalogue, you can now click your way through the entire RINGSPANN range of internal freewheels with nominal torques ranging from 325 to 20,500 Nm. The standard freewheels from all other classes will follow successively over the course of the coming months.

RINGSPANN has launched the first stage of its new online shop for freewheels. As the first freewheels manufacturer worldwide, the company thus provides designers and technical purchasers in drive engineering with a modern internet platform where they can choose the right backstops, over-running or indexing freewheels from RINGSPANN's range of internal freewheels with just a few clicks. All twelve models


of this freewheel type are available right from the outset. This means specifically that visitors to the new online shop can already choose from 160 different sizes with nominal torques ranging from 325 to 20,500 Nm. "The launch of the first stage of our freewheel online shop at www.ringspann.de is yet another important service measure on our way to becoming a full-range supplier for high-quality components of industrial drive engineering", stresses Thomas Heubach, director of the freewheels division at RINGSPANN.

Prices, quantities, availability

The new freewheel online shop by RINGSPANN features an intuitive design and a high level of transparency. It clearly and comprehensibly leads sourcing managers and purchasers through the current range of RINGSPANN internal freewheels for torque transmission via press fit and keyway connection. At the touch of a button, the user can instantly find all decision-relevant information on prices, volume scaling, availabi-

Produkte > Freiläufe > Einbaufreiläufe > für Pressverbindung am Außenring > Einbaufreiläufe FXN

Einbaufreiläufe FXN



- Datenblatt FXN
- 3D CAD-Modell
- Einbauanleitung FXN
- Katalog Freiläufe

für Pressverbindung am Außenring mit Klemmstückabhebung X

Anwendung als

- Rücklaufsperr
- Überholfreilauf

Bei Anwendung als Rücklaufsperr für Einsatzfälle mit hohen Drehzahlen im Leerlaufbetrieb.
Bei Anwendung als Überholfreilauf für Einsatzfälle mit niedrigen Drehzahlen im Mitnahmebetrieb.

Eigenschaften

Einbaufreiläufe FXN sind Klemmstück-Freiläufe ohne eigene Lagerung in Bauart mit Klemmstückabhebung X. Die Klemmstückabhebung X sorgt für verschleißfreien Leerlaufbetrieb bei schnell drehendem Innenring. Der Außenring wird in das kundenseitige Gehäuse eingepresst. Dadurch sind kompakte, platzsparende Einbaulösungen möglich.
Nenn Drehmomente bis 20 500 Nm. Das Drehmoment wird am Außenring durch Presssitz übertragen.
Bohrungen bis 130 mm. Eine Vielzahl an Standardbohrungen ist kurzfristig lieferbar.

Kontakt

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☎ +49 6172 275-411
✉ sales.freewheels@ringspann.de

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Werktags von 08:00 bis 18:00 Uhr

Artikel auswählen:

Bezeichnung	Gewicht [kg]	Materialnummer	Lieferzeit*	Für Kunden in Deutschland und Österreich Preis/Stück in € bei Abnahme ab					
				1	5	10	20	50	100
○ FXN 31-17/60 NK	0,3	4867-031350-020H16	5 Tage	95,79 €	91,00 €	88,13 €	86,21 €	84,30 €	81,42 €
○ FXN 31-17/62 NK	0,4	4867-031351-020H16	5 Tage	161,76 €	153,67 €	148,82 €	145,58 €	142,35 €	137,50 €
○ FXN 38-17/70 NK	0,38	4867-038350-025H20	5 Tage	127,03 €	120,68 €	116,87 €	114,33 €	111,79 €	107,98 €
○ FXN 46-25/80 NK	0,8	4867-046350-030H33	5 Tage	169,73 €	161,24 €	156,15 €	152,76 €	149,36 €	144,27 €
○ FXN 51-25/85 NK	0,8	4867-051350-035H33	5 Tage	145,30 €	138,04 €	133,68 €	130,77 €	127,86 €	123,51 €
○ FXN 56-25/90 NK	0,9	4867-056350-035H33	5 Tage	161,91 €	153,81 €	148,96 €	145,72 €	142,48 €	137,62 €
○ FXN 56-25/90 NK	0,92	4867-056350-040H33	5 Tage	161,91 €	153,81 €	148,96 €	145,72 €	142,48 €	137,62 €
○ FXN 61-19/95 NK	0,85	4867-061350-035H33	5 Tage	162,48 €	154,36 €	149,48 €	146,23 €	142,98 €	138,11 €

A glance at the new freewheel online shop of RINGSPANN: All twelve models of internal freewheels are available right from the outset. The FXN series is suitable for nominal torques of up to 20,500 Nm as well as for applications with high idle speeds.

lities and delivery times. Short text boxes outline the typical applications and main technical features of all models and types. Engineers, developers and designers can also access the relevant data sheets, instruction manuals and 3D CAD models of the respective internal freewheels in all sections of the online shop. “Last but not least, with this new online shop we are realising yet another digital component of our company-wide Industry 4.0 strategy”, adds divisional manager Thomas Heubach.

Comprehensive and transparent

In the upcoming weeks and months, all other freewheel types in the RINGSPANN range will be following the example of the internal freewheels and finding their way into the new online shop, to ensure that by the end of the year what must be the most comprehensive internet platform on the selection and ordering of freewheels of all designs will be available. “If you want to be taken seriously as a full-range provider or one-stop

supplier by the market, there is no way around providing a comprehensive and transparent presentation of your entire product portfolio, even in the B2B sector. Thanks to our new online freewheels shop, we are now a great deal closer to achieving this aim”, reaffirms RINGSPANN’s Thomas Heubach.

RINGSPANN’s new online shop will thus very soon be an essential source for selection and supply for all those sourcing managers and technicians who, in addition to internal freewheels, also require complete, housing, basic, integrated and cage freewheels for the realisation of backstops, overrunning or indexing kinematics in drive engineering units. As Thomas Heubach is keen to emphasise, however, the new freewheel online shop will not entirely replace the printed product catalogue: “We understand the RINGSPANN catalogues are important reference works for many customers who are reluctant to make do without them. However, we will in future be placing a greater emphasis on medial diversity in the presentation of our portfolio”. <<

If you want to be taken seriously as a full-range provider by the market, there is no way around providing a comprehensive and transparent presentation of your entire product portfolio.“

Thomas Heubach, Head of Division Freewheels at RINGSPANN



April

Interactively to the suitable brake

After expanding its portfolio of industrial brakes in recent months with a number of additional models, RINGSPANN now also presents an optimised range of online tools for their selection and calculation. Engineers and purchasers are thus being provided with a whole host of new filters and functions to quickly and accurately guide you to the suitable brake for your application.

RINGSPANN's current brake portfolio now encompasses all currently relevant design and functional types of industrial brakes for the application cases of stopping, control and holding – including the appropriate control systems. The company from Bad Homburg has closed the remaining gaps in its range with a model offensive in 2017 and the takeover of an Italian brake manufacturer at the beginning of this year. This includes the recent addition of new electrical disc brakes, as well

as numerous electro-hydraulic disc and drum brakes into the overall range, which now spans braking torques ranging from 0.5 to 325,000 Nm. Parallel to the completion of the product range, the specialists of RINGSPANN's brakes and clutches division have in recent weeks been working on optimising the online tools for the selection and calculation of the brakes. They were finally made available a few days ago and help engineers and purchasers of industrial drive technology quickly find the right brake for their individual application case. The new collection of search filters and the calculation tool that has now been supplemented with the application holding are especially a real asset, and make the website www.ring-spann.com one of the best Internet addresses for all users of industrial brakes.



Four main features and many options

RINGSPANN's new search filter selection convinces thanks to a practically oriented click list that provides all the most important criteria for determining the suitable brake. Engineers and sourcing managers can select from multiple options under the four umbrella terms activation type, release type, adjustment and mounting, which will then immediately display the relevant model(s) on the screen. So, for example, if you check the boxes next to "pneumatically activated", "no adjustment to counter friction block wear" and "mounting to the machine parallel to the brake disc", the system will immediately present you with the result – in this case the DV 020 PFK model brake calipers for braking torques ranging from 25 to 650 Nm. The user is then presented with further options: dialling one of the hotline numbers displayed, taking a look at the data sheet, sending a query by email, downloading the pdf catalogue or browsing in the 3D CAD models (downloads) and Technology (detailed description) sections. Or they can head straight to the RINGSPANN website's second highlight: The enhanced and free brake calculation tool.

Interaction between calculation and selection

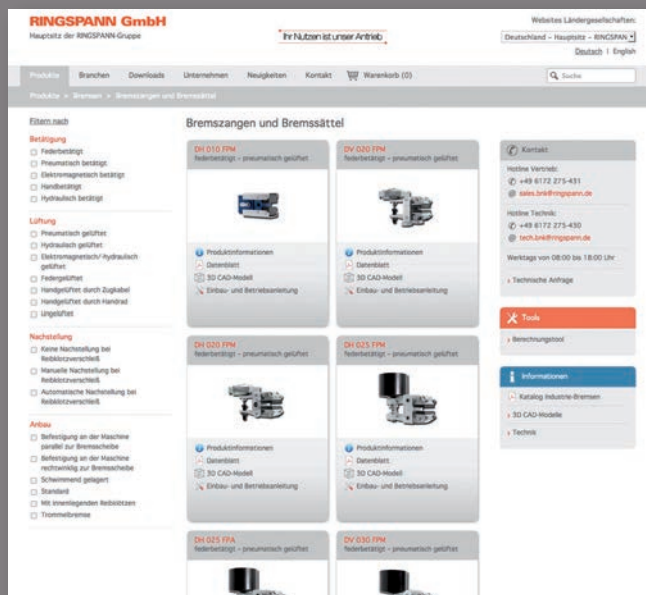
The brake calculation program by RINGSPANN enables you to determine braking torques and braking forces – the key

factors when it comes to selecting the suitable brake. The user can either assess the product discovered through the search filter options or carry out an independent new calculation. Smart: Since the calculation tool interacts with the search filter menu in real time, the calculated brake torque is always immediately checked against the product selection. On the one hand, this means that a previous selection carried out using the search filter is checked for suitability; on the other hand, it also means that the user can conduct his research directly in the calculation tool. This particularly makes sense when one already knows the area of deployment of their brake, because the online tool offers you five starting options inspired by typical scenarios in practice for the application case braking: The braking of rotating masses (e.g. shafts), carriages, hoists (vertical moving masses), downward moving conveyors and on vertical rails in lifts and hoists. One new selection criterion is the application case holding – the second large functional area for RINGSPANN's industrial brakes. The calculation module for the third important application of control is currently undergoing testing and will probably be available from this autumn.

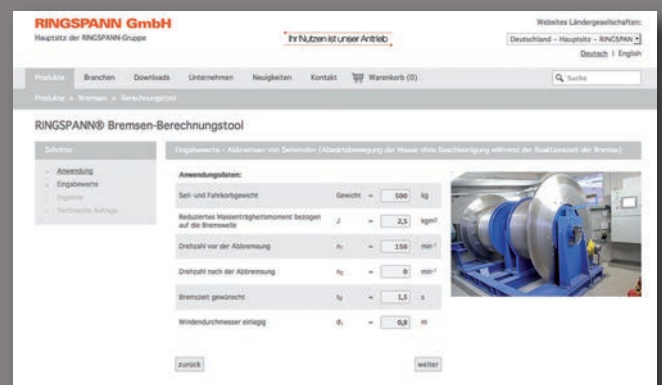
With the new search filter menu, the enhanced calculation tool and the interaction between these two areas, RINGSPANN provides all engineers and purchasers with an excellent online service for selecting and identifying industrial brakes. They not only provide support in their daily design and research activities, but also help to speed up the decision-making process.



Search filters menu



Brake calculation tool



Our own staff on site wherever you are

RINGSPANN is continuing its internationalisation strategy at an impressive pace. The latest evidence of this is the establishment of a subsidiary in Singapore just a few days ago. With what is now its 13th foreign branch, the German premium manufacturer of drive components, precision clamping technology and push/pull cable systems is strengthening its market position in the Southeast Asian economic region. The company can now provide more intensive support to its ASEAN customers in mechanical engineering, mining and the paper industry from Singapore.

“The establishment of our subsidiary RINGSPANN Singapore is yet another key measure of our long-term internationalisation strategy. We are coming a significant step closer to our objective of having our own staff on site in all important mechanical engineering nations in the world”, says Nico Hanke, RINGSPANN’s International Head of Sales. In the ASEAN region, users particularly in the fields of mechanical engineering, raw material extraction and the paper industry can now be reached more quickly and directly by the German manufacturer with its products than was previously the case. RINGSPANN’s 13th international subsidiary, positioned as a distributor, is exceptionally well equipped for the task, being able to access the capacities of all international production sites in Germany, China, the USA and South Africa. “This way we are able to ensure that RINGSPANN Singapore can serve the large ASEAN area effectively and intensively with our freewheels, shaft-hub-connections and overload clutches, as well as our industrial brakes, precision clamping fixtures and mechanical remote control systems. Our headquarters in Bad Homburg and our manufacturing plant in China will be playing a leading role here”, explains Nico Hanke.

Focus on the MRO sector

The principal focus of RINGSPANN’S supplier activities in the emerging Southeast Asian region is on the MRO business, i.e.

the fields of maintenance, repair and operations. Since experience has shown that supplying customers in these regions place greater logistical demands due to geographic obstacles and large distances, the continued expansion of the partner and distributor network in ASEAN countries ranks among RINGSPANN Singapore’s primary tasks. “Through this network, the regional markets should then stand to benefit from all our strengths – i.e. both the high quality of our products and our extensive consulting expertise. This is why it is so important to have the local presence of our own teams”, stresses Head of Sales Nico Hanke.

The greatest challenges

RINGSPANN has had sufficient time in the last three years to familiarise itself with the unique demands of the ASEAN region. The company has built up a stable customer base with the help of a representative office in advance of establishing the new foreign subsidiary in Singapore. “We have been laying the groundwork for the realisation of RINGSPANN Singapore since 2014”, says Nico Hanke. As an expert of the ASEAN region, the RINGSPANN’s International Head of Sales however only knows too well what – completely independent from product and service quality – the largest obstacles really are to achieving business success in this part of the world. In his view, “the undoubtedly greatest challenges lie in the cultural and ethnic diversity and in the vast disparity in educational levels of the individual nations in Southeast Asia. Only those who are able to adapt to this and have staff on site who flexibly, professionally and patiently cope with these demands will be successful as a component supplier”, states Hanke.

The internationalisation continues

The founding of RINGSPANN Singapore is still just one phase of the internationalisation strategy of the Bad Homburg drive technology specialists. In just a few weeks, the company will be announcing the establishment of its 14th international subsidiary. According to RINGSPANN Head of Sales Nico Hanke, they are now only waiting for some details from the authorities. <<

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Arthur Low
*General Manager of
RINGSPANN Singapore*



Nico Hanke
*International Head of Sales
at RINGSPANN*

Control, hold and stop with a number of

Thanks to the product offensive in the last months, RINGSPANN now boasts an almost complete assortment of industrial brakes. Particularly its broad selection of electro-hydraulic drum and disc brakes with options for customer-oriented optimisation are setting global standards. These brakes are primarily used in drive and safety systems of lifting and conveyor systems in the steel industry and container logistics as well as in crane construction and marine technology.

They ensure the operational safety of bucket wheel excavators and bulk goods conveyors, enable the secure handling of containers and ensure the smooth handling of melting pots at the blast furnaces of steel producers. All over the world, they are also in use as indispensable components in drive units of mobile portal cranes. We are talking about the electro-hydraulic drum and disc brakes in RINGSPANN's current portfolio, which is currently among the best-stocked offers on the market. And yet the currently catalogued standard range, with brake torques ranging from 230 to 7,200 Nm for drum brakes (DT series ...) and from 2000 to 19,900 Nm for disc brakes (DS series ...), conveys at best just a vague impression of the true scope of performance that RINGSPANN can offer engineers, developers and purchasers in this brake technology segment. And that is because, in addition to the almost all-encompassing range of models – with the corresponding control systems –, the customer-oriented configuration of electro-hydraulic drum and disc brakes along with the fast spare part services and modern test bench technology rank among the company's greatest strengths.

From catalogue model to customer solution

An important linchpin in all of this is RINGSPANN's Italian subsidiary close to Milan. It has assumed an increasingly pivotal role due to the organisational integration of a brake manufacturer acquired at the beginning of the year, and in the tech-

nological tête-à-tête with the RINGSPANN specialists at the firm's headquarters in Bad Homburg is able to transform any electro-hydraulic drum or disc brake from the catalogue range into a customer and application-specific ideal solution. To do so, there is not only a broadly diversified range of technical options available, but also the in-house production capacities of RINGSPANN Italia. And if it shouldn't be possible to specially tailor broader brake shoes or drums, an automatic friction lining wear regulation, an externally adjustable brake spring, a heat-resistant lifting device or sinter metal friction linings – to name just a few possibilities from the wealth of options – for the selected electro-hydraulic brake for your application, the CNC machinery in Limbiate opens up further scope for technical fine tuning.

Just-in-time and with a test report

RINGSPANN also excels in the field of electro-hydraulic drum and disc brakes thanks to other key factors. The constant availability of all technically important components on site in Italy for example secures a high degree of availability of the brakes and enables the integration of the brake assembly into just-in-time scenarios of European customers. All spare and wear parts are also available on standby and supplied in record time. The brakes customer is thus provided with the greatest possible planning and investment security by RINGSPANN thanks to the company's comprehensive test bench technology. RINGSPANN is able to test check and verify braking torques, holding forces, reaction times and many other key performance parameters of the brakes from its DT and DS series on its own test benches. In addition to detailed installation instructions and user manuals, the customer also receives all the necessary test reports and protocols for their technical documentation and quality assurance. By the way: The RINGSPANN's electro-hydraulic drum brakes comply with the connection dimensions of DIN 15435.

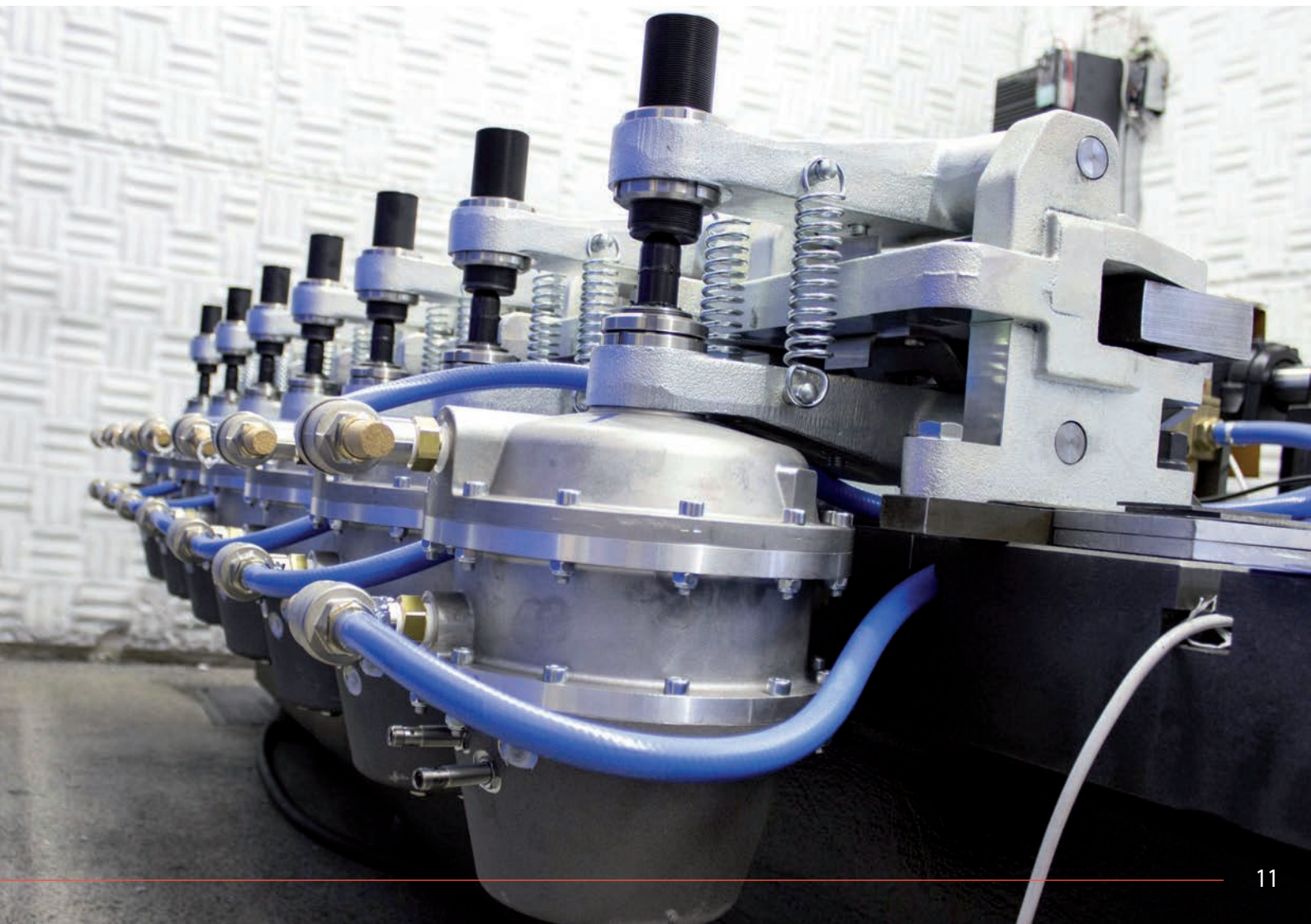
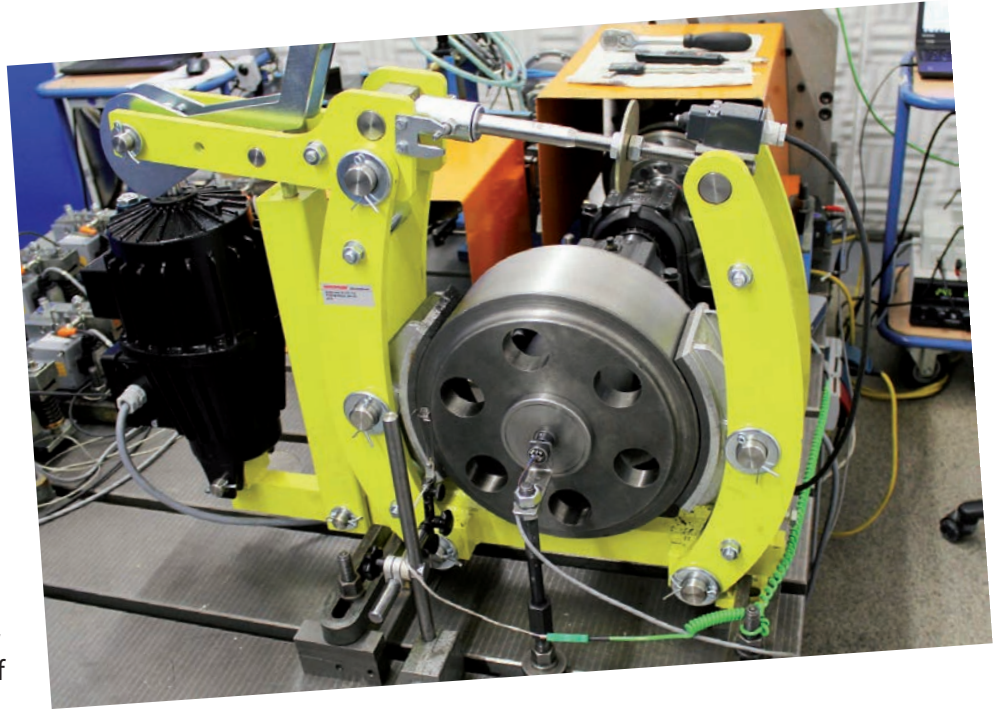
The takeover of the north Italian brake manufacturer Ostelectric in January of this year has brought RINGSPANN a crucial step closer to its future as a one-stop supplier for industrial

of options

drive technology components. The company not only boasts additional engineering and production expertise in the field of electro-hydraulic drum and disc brakes, but now also belongs to the established circle of manufacturers of electro-hydraulic lifting devices, which form the dynamic centrepiece of these brake types.

The integration of the Italian manufacturer's range of products into RINGSPANN's overall portfolio amounts to what is an enormous densification of performance of its brake range.

It also means that customers of drive technology at RINGSPANN currently have access to all relevant design and functional types of industrial brakes. <<



Our benchmark is the life cycle of the p

When it comes to the implementation safety-relevant unlocking, emergency trigger or release systems, RINGSPANN RCS push-pull cables are the first choice for operators in a wide range of sectors. That is not only down to the high quality of the mechanical actuation and operation elements from Oberursel, but also the company's unwavering customer orientation. In an interview, managing director Christian Kny also explains why he is particularly focused on the optimisation of the service lifetime of the cable systems.

RINGSPANN RCS is viewed as a premium manufacturer of high-quality push/pull cables and currently quite possibly boasts the most innovative product range on the market. Its mechanical control, actuation and operation elements are also currently subject to healthy demand. You could easily lay back and relax now, couldn't you?

Christian Kny: That may all be true, but there can be no question of us resting on our laurels. While we may already cover a broad spectrum of applications with our four cable models and our wide range of standard sizes, forces, travels and attachment parts, the constant striving for technical improvements never lets us rest. Furthermore, we have clients approaching us almost daily with new demands. And of course, we cannot forget the competition.

Aren't push/pull cables standard elements whose technical development has long been concluded?

Christian Kny: No, it just looks like that at first glance – particularly if you mistake our products for traditional Bowden cables. Our cable systems are demanding mechanical remote control systems for alternating power transmission with in some cases extremely complex designs. They are suitable for all applications where forces need to act between spatially separated, fixed modules, and where it must be possible to separate the connection of input and output force through a flexible system. Our cables are intrinsically safe, maintenance-free, extremely flexible, protected against splash water and

Christian Kny
General Manager of
RINGSPANN RCS GmbH



convince thanks to excellent sliding properties. They may be among the best on the market; and yet that doesn't stop us from constantly working to improve them. Whether it is about tribological aspects, the use of new materials or innovative reinforcements – we are working on many fronts.

Can you give our readers a specific example of this?

Christian Kny: The push-pull cables of our current premium 380 series are not just a result of many decades of practical experience and a high degree of manufacturing expertise, but in terms of the materials used and the constructional implementation – also in detail – they are a real premium product. This bi-directionally operating Bowden cable works safely even at high loads, with small bending radii and at constant temperatures of -50°C to 100°C and exhibits very smooth operation. The engineer thus receives a first-class remote control system with a high degree of effectiveness and a response behaviour that is unrivalled on the market and furthermore does not exhibit any stick-slip effect – always provided that the selection was carried out carefully and that no errors were made during installation and use.

Errors during installation and use? What are you thinking of specifically?

Christian Kny: Only recently, a renowned automobile suppliers conducted a comprehensive benchmarking with push-pull cables of all internationally relevant providers with our

Product

RCS cables emerging as the winner. Best performance, best response behaviour, best back lash – all first class! However, we wondered about the fact that our push-pull cable was said to break on the test bench after 600,000 actuation cycles – when they are in fact designed for 1.0 million cycles. Since that did not seem right, we took a closer look at the test setup on site. It was here that we discovered the clamping device had damaged the conduit cap of our cable; the push-pull cable had thus been in an unfavourable enforced state during testing. It was therefore rather astonishing that it even managed to complete 600,000 cycles. We are also often confronted with unrealistic force demands. Recently, I read for example in a product specification that our cables should be designed for manual pushing forces of 6,500 N. When I then asked the manufacturer which weightlifter he envisaged as a potential operator, we both had to laugh ...

What exactly is this stick-slip effect you mentioned?

Christian Kny: It refers to the constant switching between stick-slip and gliding, usually at lower speeds. It would be perceptible as a jerking motion and would thwart the transfer of force. To rule out this negative effect, the cable systems in the 380 series are not only equipped with a spiral-supported flat-wire reinforcement, but also with Teflon-coating and a finely tuned inner tube in the conduit. Our heavy-load cables from the 280 series for pushing forces of up to 1,350 N and pulling forces of up to 4,500 N also have this feature. It minimises sliding friction and makes it possible to achieve very small bending radii – for example for confined installation locations.

Which factors should an engineer primarily take into consideration in the selection and design of RCS cable systems?

Christian Kny: He may already know some base values, such as the required pushing and pulling forces, anticipated deployment temperature or the required vertical travel; when it comes to other factors, it is advisable to bring us into the fold as early as possible – already in the testing phase. Many questions can only be answered accurately if we know the specific application. This has an impact for example on the suitable design of the end parts – zinc-coated or rust-free –,



Push-pull cable production at RINGSPANN RCS: A flexible mix of manual, craftsmanship-style production and industrial, mechanised assembly enables a high level of customer orientation.



A look at production: The manual deburring ranks among the key quality factors in the push-pull production of RINGSPANN RCS. Many other manufacturers leave out this process step for cost reasons.



The quality assurance is a key factor in the mechanical cable production of RINGSPANN RCS. The illustration shows the measurement of a conduit cap.

June

the best connection type of the cable – swivelled, rigid, screwed or clamped – or on the design of the wiper seal. It is also important to know which routing the cable needs to be designed for.

Now that really does sound like a lot of detailed work to determine the optimal power cable ...

Christian Kny: ... yes, that is often underestimated. I can only advise against carelessness when it comes to the technical design and dimensioning of push-pull cables; also, I strongly advise against ordering from online catalogues of unknown providers. You should particularly focus on two things: Firstly, as fire-and-forget solutions, the cable systems should be able to carry out a very large number of travels over a long period of travels safely, maintenance-free and smoothly. And secondly, many applications require that cables must always immediately deployable despite very long, idle standby pha-

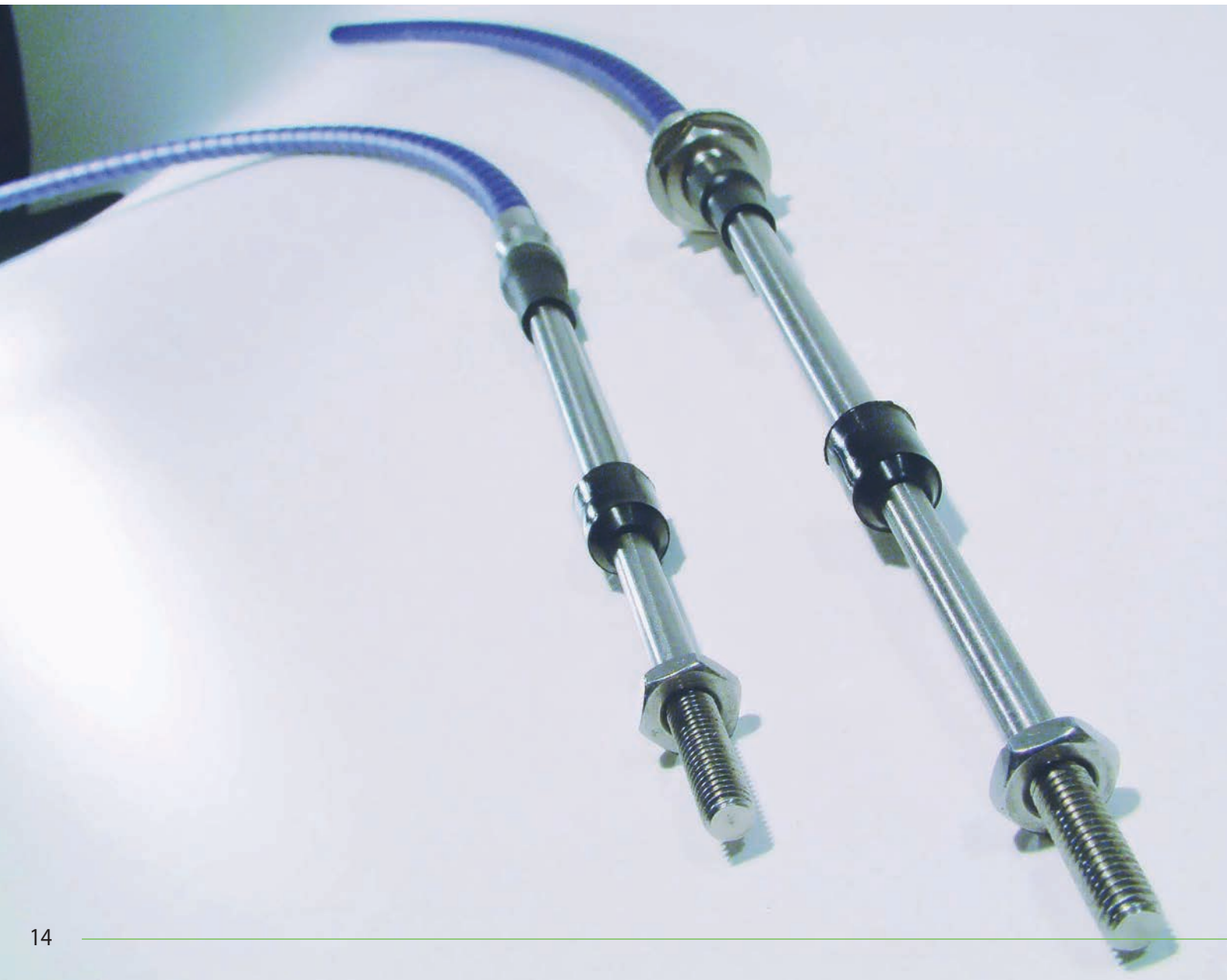
ses. This is incidentally the reason why RINGSPANN RCS prioritises the optimisation of the product life cycle over optimising production times.

Oh, now that is a surprise; how can we understand that?

Christian Kny: Naturally, we take a systematic approach towards the continuous improvement of our manufacturing efficiency, that goes without saying. In terms of the high quality of our products and their utility for the customer, our primary benchmark, however, is the optimisation of the life cycle of our cable systems – particularly through innovations in the areas of prolonging service life, lifetime extension and functional safety.

But don't all providers make the same claim?

Christian Kny: That may be the case. However, while some manufacturers invest a great deal of energy and money in





Spiral-shaped flat-wire and cross-sectionally even Teflon coating for the optimisation of the sliding friction ranks among the key quality features of RINGSPANN RCS' push-pull cable series 280 and 380.



Rotary pressing of hose sleeves: RINGSPANN RCS also devotes great attention to pressing the end parts of its push-pull cables. An optimised press design is always used for each cable type.

autonomous full automation to be able to manufacture ever larger quantities of identical standard cables more quickly, the focus of RINGSPANN RCS lies in continuously improving the quality of the cable systems themselves. In order to do so, however, you have to place the emphasis on development work and in production employ a flexible mix of manual, craftsmanship-style production and industrial mechanised assembly. The fact that we have been able to achieve this is in some ways our key to success. It also puts us in the position of being able to achieve a high level of customer orientation in the day-to-day business..

Nowadays companies all have a different definition of the term "customer orientation" ...

Christian Kny: ... we are always looking at a two-fold perspective in this regard: Our primary customer is the engineer or purchaser in the sports car divisions of automobile manufacturers, in marine engineering, in aircraft construction or robotics and fluid technology, who for example needs a remote-control solution for a new locking and unlocking system or an alternative to a complicated linkage device. Or just a better, fail-safe mechanical cable. However, our customer is also the end user who uses our push-pull cables in practice – in the case of motorsports, for example, very successfully so. Ultimately, we always need to keep both happy. And this does not work with standard cables bought "off the shelf"; it requires experience, engineering expertise and flexibility in production – and here we are now able to offer an interesting intermediate solution.

Now we're curious. What exactly is this "intermediate solution"?

Christian Kny: Our great strength – also unlike many competitors – is founded in our high level of expertise in the development and engineering of customer and user-specific cable system solutions. Thanks to our company history, we are able to draw on a large pool of specialist topics such as kinematics and tribology and a wealth of practical experience in the field. However, if there is no need or if there is a lack of time to conduct a development project, we also offer the option of customer-specifically coordinating and configuring common types of push-pull cables from the RCS standard range from certain batch sizes. Thanks to our extensive range and flexible manufacturing structure, we are often quickly able to achieve excellent results.

And how do you react in urgent cases, i.e. if time is of the essence?

Christian Kny: Besides the fact that we are always able to deliver the most frequently requested variants of our cable systems from the catalogue range at short notice, a few weeks ago we launched our new express cable offer. Here, our million-selling product – a 280-series push-pull cable – is already available upon demand via 24/7 rapid delivery service. This cable for pushing forces of up to 320 N and pulling forces of up to 540 N is equipped with a flat-wire reinforced and Teflon-coated inner member, connection parts made of stainless steel and seals against dust and moisture – it is thus already a high-quality RCS premium product. It is available with immediate effect with and without a T-grip.

Mr. Kny, thank you for this interview.

Next stop Down Under

RINGSPANN is pursuing its globalisation plans at a breath-taking pace. Just a few weeks after the new branch in Singapore commenced activities, the company is announcing the establishment of its 14th international subsidiary RINGSPANN Australia. The German one-stop supplier of power transmission components, precision clamping fixtures and mechanical cable systems is thus intensifying its presence in the markets Down Under. From Melbourne, the company will especially focus on its mining and gear manufacturing customers in Australia, New Zealand and Papua New Guinea.

“Our strategy of internationalisation aims to establish RINGSPANN in all the important mechanical engineering regions of the world as a one-stop supplier for high-quality drive technology components – and always with our own employees on site. The now completed founding of RINGSPANN Australia is yet another systematic step in this direction”, says Nico Hanke, RINGSPANN’s International Head of Sales. Down Under, the German manufacturer can more easily and more quickly reach customers primarily in the fields of mining technology and industrial gear manufacturing from its new location in Melbourne. The vast distances in and between Australia, New Zealand and Papua New Guinea may remain a logistical challenge; but in Nico Hanke’s eyes, the advantages of RINGSPANN moving much closer to the major suppliers of mining technology in this industrial region dominated by mining with what is now its 14th foreign subsidiary far outweigh any risk. “We particularly anticipate a significant upturn in our MRO business, since the large coal and ore mine operators are now metaphorically right at our front door”, states Hanke.

Full access to international plants

Just like RINGSPANN Singapore, RINGSPANN Australia can also make use of all capacities of the manufacturing plants in Germany, Italy, the USA, China and South Africa. This ensures that Melbourne can competently and efficiently supply the customers in its large sales region south of the equator with

freewheels, shaft-hub-connections, overload clutches, industrial brakes, clamping fixtures and push/pull cable systems from the RINGSPANN portfolio. “Due to similar technology focuses, our parent plant in Bad Homburg as well as our production sites near Johannesburg in South Africa and Tianjin in China will be taking on a key role here”, explains Nico Hanke.

Slight upturn in sight

The establishment of another international subsidiary in Melbourne is proof that RINGSPANN cannot be slowed down by economic or structural crises of individual sectors in the implementation of its long-term internationalisation strategy. While the company’s market analysts are aware that the mining industry has been experiencing severe hardship for a number of years, they now see the first signs of a slight upturn. “With RINGSPANN Australia, we will be in the best possible position to take advantage when the mining business picks up again in this region of the world. Not only will we then be on the ground with our products, we will also be able to convince thanks to our consulting and engineering expertise”, stresses Nico Hanke.

While the employees at RINGSPANN Australia are poised to commence activities in the coming days, preparations have already begun in Bad Homburg for the next phases of the internationalisation strategy. We can look forward to seeing when the company will make its next announcement on the establishment of further foreign subsidiaries. <<

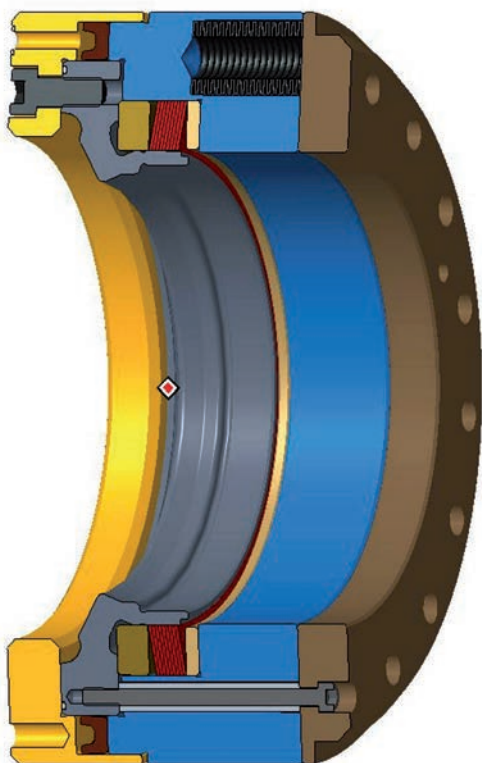
Seshan Ramaswamy
Managing Director
of RINGSPANN Australia



August

World premiere with precision right down to the thousandth

At the AMB 2018, RINGSPANN will once again be showcasing its position as an innovative premium supplier for the international machine tool industry in Hall 3. When it comes to issues of drive and clamping technology, the worldwide active company convinces with high-grade components that help mechanical engineers to realise highly-efficient precision solutions. This time, however, RINGSPANN will not just be exhibiting its precision clamping fixtures, shaft-hub-connections, torque and force limiters, brakes and friction torque limiters – for the first time, a new clamping clutch is also being presented for use in the driven rotary/tilt tables of multi-axis machining centres.



Volker Schlautmann
Head of Division Clamping
Fixtures at RINGSPANN



When it comes to mastering the three factors of power, dynamic and precision in modern multi-axis machining centres, the construction of workpiece holders and clamping elements play a key role. Continuously increasing demands on achievable accuracies and feasible torques are no longer a real surprise – least of all for suppliers. However, when a renowned mechanical engineer needed a high-precision solution to fix the driven positioning axes of the rotary/tilt table of a new five-axis machining centre, the challenge quickly separated the wheat from the chaff. After numerous manufacturers of clamping fixtures and clamping elements had to decline, the mechanical engineer came to RINGSPANN with its vision.

In the coordinate field of milling machines and machining centres, the rotary/tilt tables or portals form the A and the C-axis. Their function consists in enabling both a precise and quick approach of the workpiece to be processed into any angle setting. To achieve this, the positioning axes with the latest generation of rotary/tilt tables are driven by modern torque motors that can be controlled directly and with a high degree of precision. “And then, as soon as precise angle settings are to be held under stress during the highly precise simultaneous machining, these axes must be held – i.e. fixed. There are already clamping element solutions on the market that achieve this, however none meet the customer’s strict criteria”, explains Volker Schlautmann, the head of the clamping fixtures division at RINGSPANN.

August

“A real standout product”

Based on an existing clamping technology concept of RINGSPANN, an interdisciplinary team composed of engineers from the customer and RINGSPANN specialists took on the task. The team developed, tested and finally realised a new clamping clutch that convinced the mechanical engineer. And so, for the first time at the AMB at the RINGSPANN Booth C01 in Hall 3, it will be presented to a trade audience and as a world premiere represents the highlight of this year's trade fair programme. What is so unique about it: At torques of up to 2,400 Nm, the new clamping clutch guarantees a torsion angle of max. 0.007 degrees! “With these key technical parameters – and particularly with this level of accuracy – our new clamping clutch for rotary/tilt tables is a real standout product amongst the known fixing elements in this segment”, stresses Volker Schlautmann.

At RINGSPANN's AMB booth, trade fair visitors can have the operating principle of the new clamping clutch explained to them. One of the things they will discover is that it employs clamping discs from the RINGSPANN range to transfer the axial force of pressure springs into a radial force and feature a specially designed deformation element. “In this manner, we ensure the torsionally stiff clamping of the kingpin. The clamping is then quickly released by applying hydraulic pressure to the clamping clutch. The torque motor can subsequently freely drive the axle into any other angle setting”, explains Volker Schlautmann.

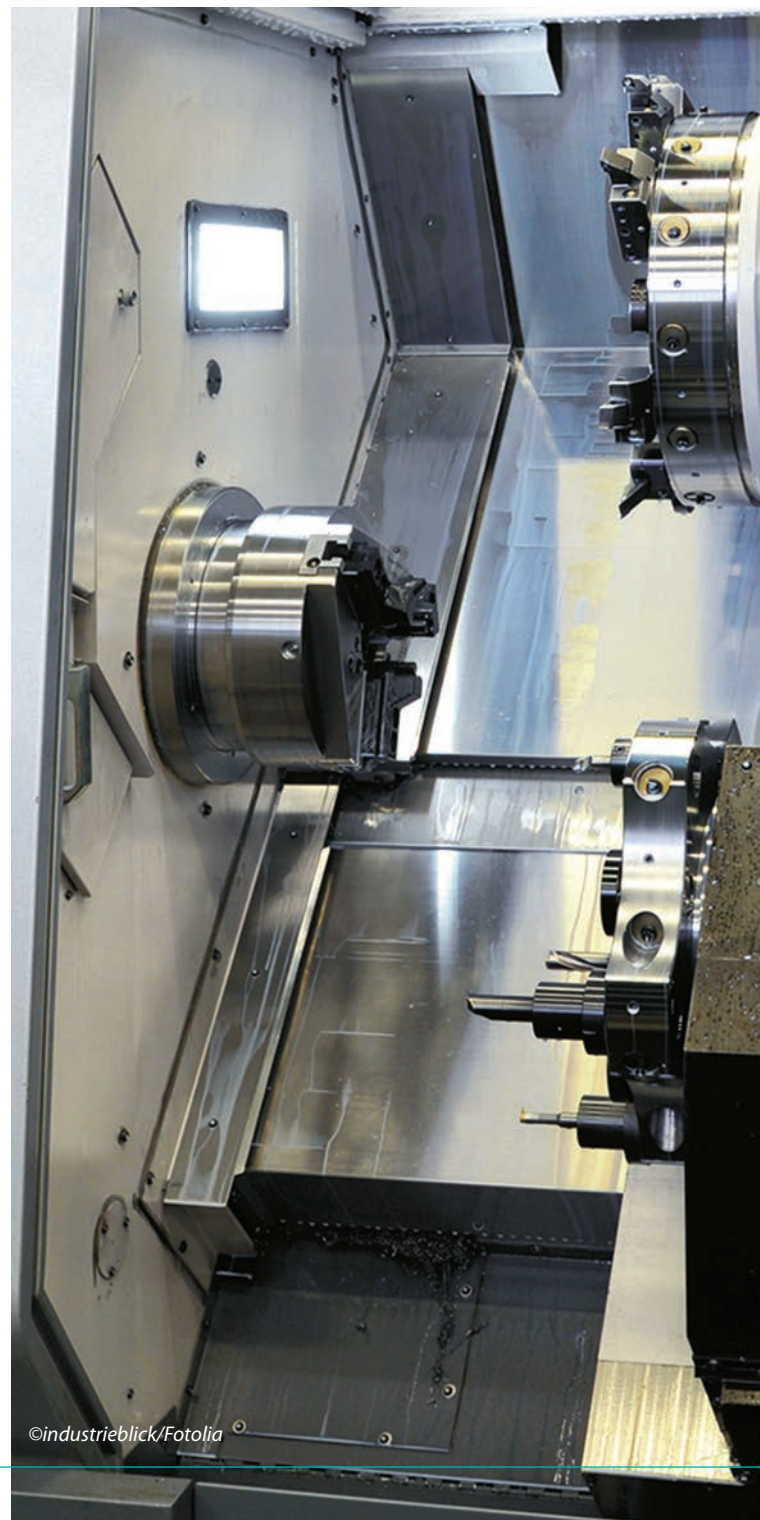
The new clamping clutch for rotary/tilt tables is now being produced in series and further enriches RINGSPANN's clamping technology portfolio. At the AMB, the company will however also be showing countless other components from this segment. Among them are precision clamping fixtures for the mechanical processing of cylindrical internal and external surfaces, which are widely available as standardised complete clamping fixtures. They are available in nine versions, so the customer can choose from four flange chucks and flange mandrels in the construction forms bonded disc, taper collet, taper sleeve, flat element and a taper collet centre mandrel. With true running accuracies of $\leq 10 \mu\text{m}$, these clamping fixtures are ideally suited for demanding tasks in machining technology.

The next highlight that RINGSPANN will be showcasing is the expanding sleeve mandrel HDDS developed in 2016, which represents an economically attractive alternative to hydraulic expanding clamping tools in gearing technology and fine machining. It stands out thanks to true running accuracies of $\leq 5 \mu\text{m}$, can take up workpieces with bores of up to tolerance

class IT10 and reduces the costs for feeding and positioning technology in fully automated operation. The HDDS range has since been augmented by an additional, smaller expanding sleeve mandrel, which means that bores from diameters of 22 mm (previously 32 mm) can now also be clamped.

Comprehensive range on display at the AMB

At this year's AMB trade fair stand, RINGSPANN will not only be presenting innovative components from its clamping technology division, but will also be inviting visitors on a foray



through its other product ranges for the machine tool industry. Because, as should be common knowledge by now, RINGSPANN offers among other things a wide selection of technical solutions for the secure operation of the main and auxiliary drives of tool machines and machining centres. Successful examples of this are the form-fit SIKUMAT® positive torque limiters and RIMOSTAT® friction torque limiters connected via friction lining. As overload protection for machine tool drives and spindles, they are ready for installation with various limit torques (0.5 - 10,000 Nm) and speed ranges (1,000 - 13,000 min⁻¹) to choose from. As overload protection

for push rods und drawbars, meanwhile, RINGSPANN's bi-directional acting force limiters are suited for disengaging forces of 3,600 - 140,000 N. A selection of overload clutches will also be on display.

A further focus of this year's AMB trade fair range is RINGSPANN's shaft-hub-connections connected via friction lining. Engineers and purchasers in the machine tool industry will find representative examples for all technically relevant types of these connection elements: externally clamping shrink discs for a play-free connection of hollow shafts and hubs on shafts, internally clamping cone clamping elements for the frictional connection of hubs on shafts, internally clamping star discs for applications with frequent switching between clamping and release, and star spring washers for the compensatory tolerance of ball bearings. Clamping systems for fixing torque motors on machine shafts connected via friction lining can also be found in this range. In total, RINGSPANN's shaft-hub-connections cover torques ranging from 0.16 Nm to 4,225,000 Nm.

Since RINGSPANN has also significantly expanded its brake range in the last few months on its way to becoming a one-stop supplier for high-grade components in drive technology, machine tool manufacturers at the company's AMB booth will also find numerous exponents from this segment. The electromagnetic disc brakes, which can be used for braking, holding and emergency stopping gravity-loaded and driven axles both from linear axles and rail guides, are bound to be a particular eye-catcher. The electromagnetic disc brakes from the EV and EH ranges particularly convince with lean installation dimensions, high degree of energy efficiency, low weight (from 6.5 kg) and numerous Industry 4.0 features (e.g. sensory monitoring). In the field of electrical brakes, RINGSPANN currently offers 16 basic types in four frame sizes with clamping forces ranging from 1,800 to 24,000 N; across all technologies, however, the industrial brake portfolio of the company covers braking torques from 0.5 to 600,000 Nm! <<



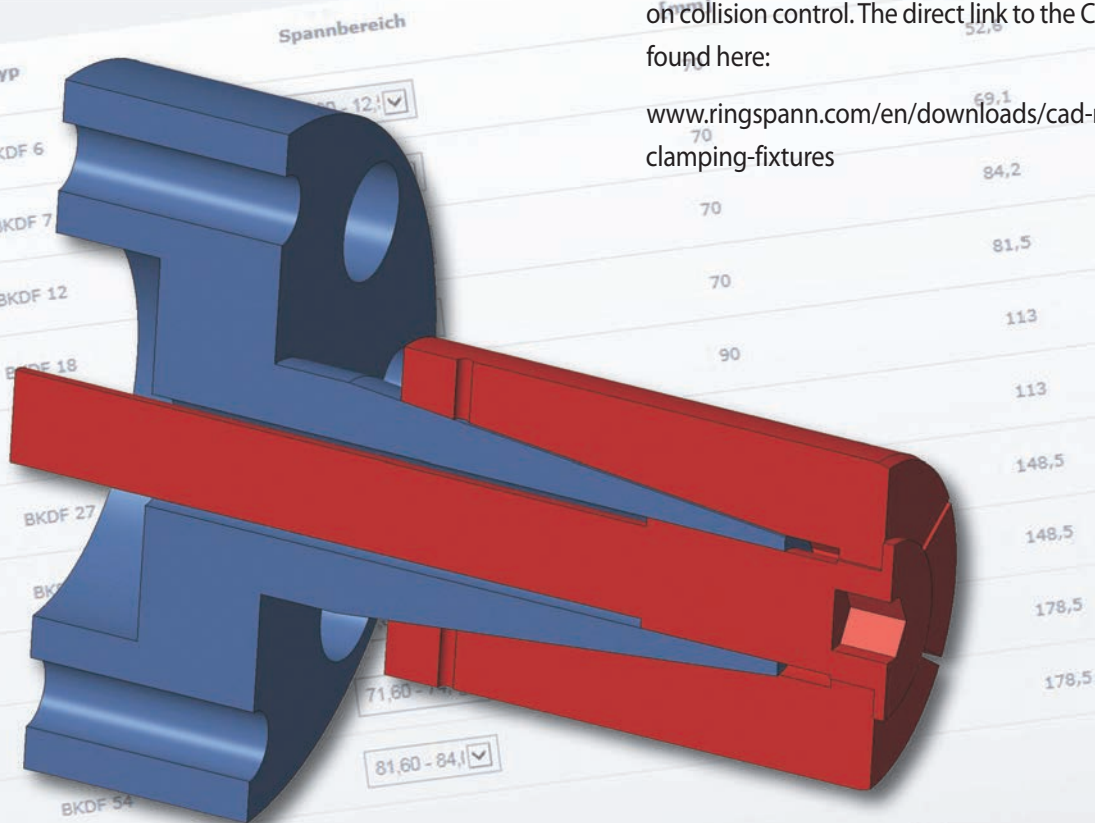
August

Via download directly into construction

With its new standard clamping fixtures RINGSPANN offers a low-priced entry into the world of precision clamping fixture technology. Furthermore, in order to allow all engineers in fixture and equipment design to easily incorporate these flange chuck and flange mandrel models into their CAD drawings, RINGSPANN is now making all data models available for free download on its website with immediate effect. They are now just a few clicks away from being downloaded in all common formats. Visitors to this year's AMB can find out more about this new service at the RINGSPANN booth C01 in Hall 3.

With this latest expansion of its download services, RINGSPANN is making life easier particularly for engineers of fixtures and equipment for manufacturing technology because, with immediate effect, the respective CAD models for all precision clamping fixtures of the eight standard models are now available for free download. With a minimum of effort, the engineer can now select the data model of the desired flange chuck or flange mandrel in the suitable format from the company's website, save it on their hard drive and incorporate it in their CAD drawing. And there are plenty of good reasons to do so in everyday practice: The engineer in fixture construction wants to be able to quickly incorporate a standard clamping fixture from RINGSPANN into his drawing as a complete CAD component, the equipment engineer may need to round off an already existing RINGSPANN clamping fixture with a backstop ring, an intermediate flange to the machine spindle or an adapter to the machine draw bar, and the project designer at the tool machine is able to resolve any issues on collision control. The direct link to the CAD models can be found here:

www.ringspann.com/en/downloads/cad-models/precision-clamping-fixtures



Aus dem Einsatz der CAD-Modelle können keine Haftungs- oder Gewährleistungsansprüche hergeleitet werden. Alle CAD-Modelle sind mit großer Sorgfalt erstellt, dienen aber lediglich der Veranschaulichung. Alle Rechte sind ausschließlich von RINGSPANN freigegebene Konstruktionszeichnungen.

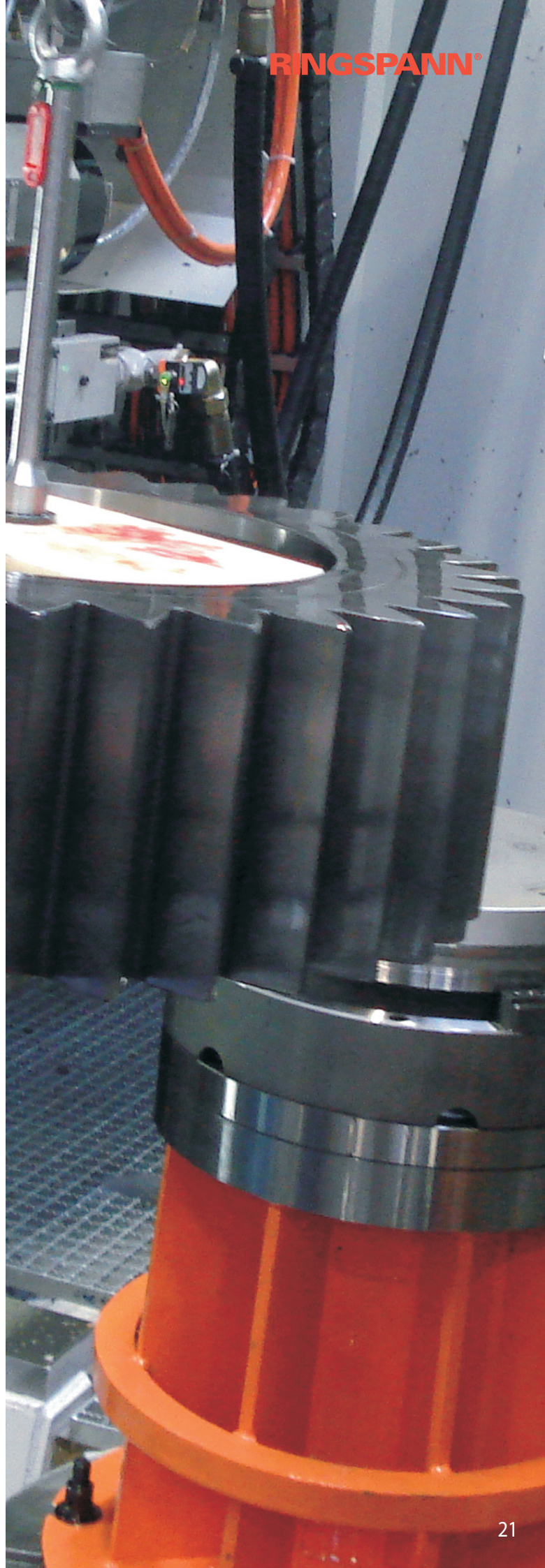
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Simple, quick and safe

The direct download of the RINGSPANN standard clamping fixture CAD models not only signifies an enormous reduction in workload and time savings for engineers; it also represents a significant contribution to quality assurance in construction. Not only is the manual reproduction of clamping fixtures in the CAD system naturally very time-intensive, it is also highly error-prone. Now, however, the full data models are ready on demand for all established CAD programs in all common formats. The engineer can select between CATIA (V4/V5), DXF and HSF as well as IGES, PARASOLID, STEP and SAT formats. The data formats VDAFS and VRML are also provided by RINGSPANN. Once downloaded, a data model can be used both to incorporate a complete standard clamping fixture of RINGSPANN into a complete device and for the constructional further processing of individual components.

Eight models for internal and external clamping

The new RINGSPANN range of standard clamping fixtures aims to provide users in the field of precision clamping fixture technology affordable and readily available comprehensive solutions. The focus of application hereby lies in the metal-cutting processing of workpieces with cylindrical internal and external surfaces – for example in gear manufacturing. Overall, the standard range of RINGSPANN consists of four models of precision clamping fixtures (flange chucks) and four models of precision clamping mandrels (flange mandrels). With their different construction forms - bonded disc (LAFF/ LBDF), taper collet (BKFF/ BKDF), taper sleeve (HKFF/ HKDF) and flat element (KFFF/ KFDF) - they represent different clamping principles. Thanks to their true running accuracies of ≤ 0.010 mm, they cover a wide range of cutting tasks and can be optimally tailored to the respective application in terms of clamping diameter, clamping length, insertion depth and expected wall thickness of the workpiece. <<



RINGSPANN®

August

An offensive for more flexibility in the

RINGSPANN is beginning the second half of 2018 with a large-scale product offensive in the field of shaft couplings. The admission of five completely new coupling types and the supplementation of numerous existing models amounts to a massive expansion of the overall range. The full-range supplier is thus providing engineers and product developers in industrial drive technology with even more options for the realisation of safe, powerful and installation space-optimised connections between shafts, motors, gearboxes and machines. The new couplings will be on display publicly for the first time at this year's Motek, where RINGSPANN will be exhibiting in Hall 8 (Booth 416).

Barely a month goes by without RINGSPANN being able to announce the implementation of the next stage of its development towards becoming a one-stop supplier for high-grade drive technology components. Just a few days ago, the

Franz Eisele
Head of Division Brakes and
Couplings at RINGSPANN



company's brakes and coupling division announced the massive expansion of its range of non-shiftable shaft couplings. It is important to realise that RINGSPANN has been devoted to the development and production of safety and starting clutches shiftable under load for more than 60 years. "However, this latest expansion of the product range is as yet unrivalled in the history of the company", stresses divisional manager Franz Eisele. While the focus of RINGSPANN's portfolio in this field had been previously placed primarily on flange, flexible and cone clamping couplings, the overall selection is now being expanded thanks to the current product offensive with five completely new models. What that means: With immediate effect, you can now also find gear couplings, grid couplings, disc couplings, pin-and-bush couplings and jaw couplings ready to deliver. "This range now allows us to offer a total of eight models that cover almost all technically relevant types of rigid, torsionally stiff and elastic shaft couplings that are currently needed in industrial drive technology", says Franz Eisele.

Eight models up to 1,299,500 Nm

Across all eight models, the now available RINGSPANN spectrum of shaft couplings covers an astonishing range of nominal torques from 2.0 to 1,299,500 Nm! This also means that purchasers and engineers from every conceivable industrial sector and branch now have a comprehensive range of non-



drive train

shiftable shaft couplings for applications in almost every area of drive technology available to them. Franz Eisele explains: "The beneficiaries of our comprehensive coupling range will not only be our current core target groups in conveyor technology, crane construction and gear manufacturing, but also many other plant manufacturers and mechanical engineers – for example those in fluid and process engineering, raw materials industry and steel production."

New catalogue for download

A complete overview of RINGSPANN's new portfolio of shaft couplings can be found in the freshly issued product catalogue 2018/19, which is available for free download on the company's website (www.ringspann.com). Here you find all coupling types and variants sorted according to design and area of application and described and depicted: The cone clamping couplings and tru-line flange-couplings for rigid connections; the gear, disc and flexible couplings for torsio-

nally stiff connections; the grid couplings for initially elastic and later torsionally stiff connections; and the pin-and-bush and jaw couplings for elastic shaft connections. "We offer the suitable coupling for applications in which the torque is transferred torsionally stiffly without phase shift but the shaft displacements need to be compensated, just like for applications in which a defined torsional stiffness must be ensured through elastomers. The coupling connoisseurs amongst us may miss the highly elastic elastomer coupling model; but we will soon be putting that right", says divisional manager Franz Eisele.

And what the customer has come to expect with freewheels, brakes, shaft-hub-connections, overload clutches, clamping fixtures and push/pull cable systems of RINGSPANN naturally also applies for shaft couplings: Customer-specific modifications can always be realised beyond the standard version shown in the catalogue to adapt series clutches to unusual and special applications. <<



September

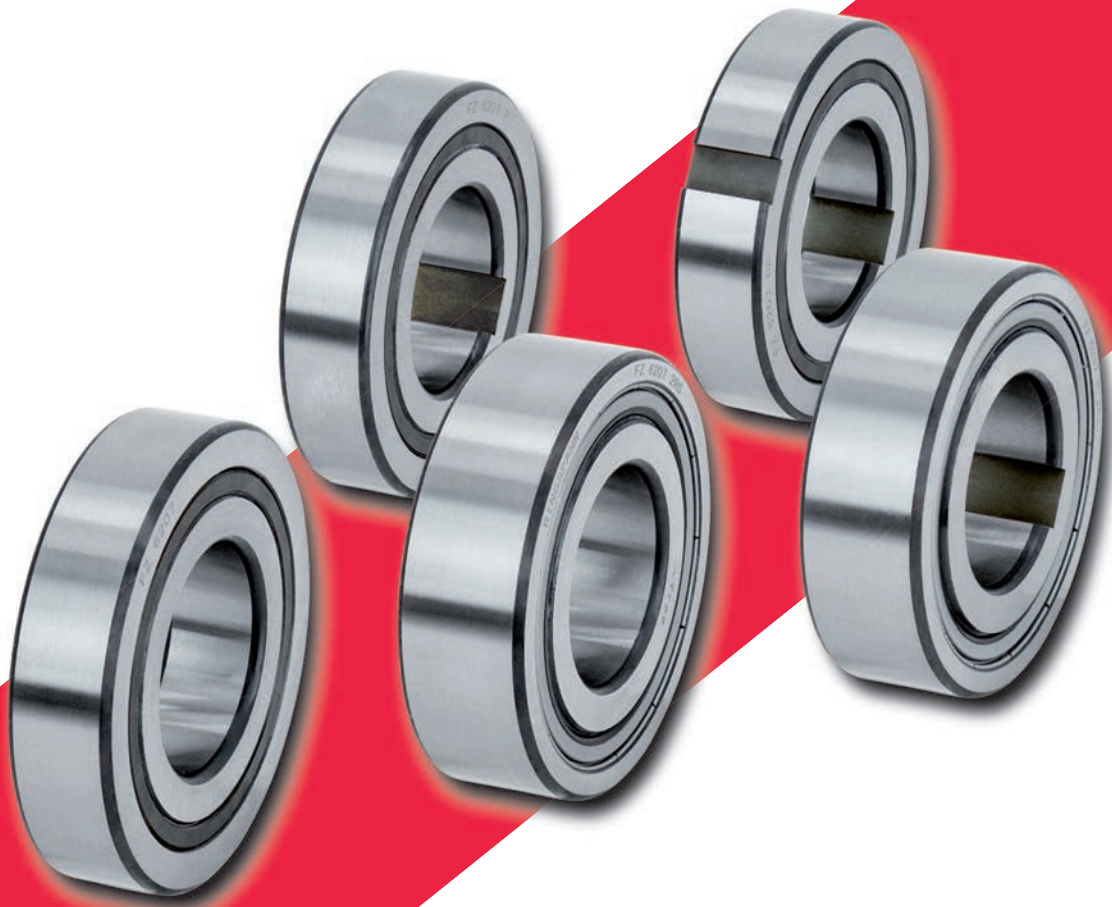
Even more choice for drive technicians

Manufacturer RINGSPANN is using this year's SPS IPC Drives in Nuremberg to showcase numerous innovations from its current portfolio for industrial drive technology at its trade fair booth in hall 3. The one-stop supplier is placing the focus on new freewheels, new shaft couplings and its compact electrical brakes. The mechanical remote control systems of RINGSPANN subsidiary RCS will also be present.

A completely new freewheels series is one of the highlights of RINGSPANN's trade fair appearance at this year's SPS IPC Drives. "The product catalogue may not yet be ready to print, but our product range is already ready, meaning that we can present our new FZ series to a large audience for the first time at our trade fair booth 274 in hall 3", says Thomas Heubach, the divisional manager of freewheels at RINGSPANN. The unique thing about these freewheels is that they boast properties that one would commonly expect of bearings. It would

therefore not surprise Thomas Heubach at all if several trade fair visitors were to initially mistake the new FZ freewheels for ball bearings of a closed design. In purely visual terms, they do look deceptively similar to this ball bearings type, and yet functionally they fulfil very different tasks. Thomas Heubach explains: "They are bearing-supported internal freewheels that can be universally deployed as backstops, overrunning freewheels or indexing freewheels. In most sizes, we have designed them in the same dimensions as the series 62 standard ball bearing common in drive technology. They are installed into the housing provided by the customer, which enables the realisation of space-saving and compact designs."

To give engineers in drive technology as much freedom as possible, RINGSPANN offers the new freewheels in five basic versions with eight or nine sizes each for the transfer of nominal torques of up to 420 Nm (at the outer or inner ring). For applications in demanding conditions (dirt, wet etc.), two basic versions additionally feature 2RS seals.





Thomas Heubach
Head of Division Freewheels
at RINGSPANN



Franz Eisele
Head of Division Brakes and
Couplings at RINGSPANN



Christian Kny
General Manager of
RINGSPANN RCS GmbH

Torques of up to 1,230,000 Nm

The FXM-series freewheels, designed for much higher torques – and significantly larger in size –, will also be presented by RINGSPANN at this year's SPS. They are integrated freewheels with sprag lift-off for bolting to the face, which can be used as backstops and overrunning freewheels for tremendous nominal torques of up to 1,230,000 Nm. "Typical areas of application are the gearbox constructions of conveyor belts, bucket conveyors or grinding mills", explains Thomas Heubach. The freewheels of the FXM series have bores with diameters of up to 560 mm.

Five new coupling series

A whole wealth of innovations will be on display by RINGSPANN at SPS in the field of shaft couplings. And that is because just a few weeks ago, this product area was significantly expanded with the addition of five new types and the supplementation of many existing series of non-shiftable shaft couplings. The current selection of flange, flexible and cone clamping couplings is supplemented by gear couplings, grid couplings, disc couplings, pin and bush couplings, and jaw couplings. "Our range thus now encompasses eight series that cover almost all technically relevant types of rigid, torsionally stiff and elastic shaft couplings that are currently in

demand in the industry", says divisional manager Franz Eisele. In total, the current RINGSPANN range of shaft couplings now encompasses nominal torques ranging from 2.0 to 1,299,500 Nm. This means that purchasers and engineers from every conceivable industrial sector now have access to a comprehensive range of non-shiftable shaft couplings for applications in almost every area of drive technology. Franz Eisele stresses: "The beneficiaries of our coupling range will not only be plant manufacturers in conveyor technology, crane construction and gear manufacturing, but also other mechanical engineers and systems manufacturers – for example those in fluid and processing engineering, raw materials industry and steel production." A complete overview of RINGSPANN's new portfolio of shaft couplings can be found in the product catalogue 2018/2019, which is available at www.ringspann.com as a download version – and will also be available at the company's SPS trade fair booth in hall 3.

Energy-efficient stopping and holding

Since RINGSPANN views itself as a one-stop supplier for premium components of industrial drive technology, the company will also be providing insight into its current range of electrical brake systems in Nuremberg. The focus will hereby be on the electronically controlled electrical disc brakes of the EV and EH series. They are a cost-efficient holding and emer-

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gency stop solution for all mechanical engineers and plant manufacturers who shy away from the installation and maintenance expenditure of hydraulic or pneumatic brake systems. "It will not only be engineers of drive and rotating units who stand to benefit from the high level of functionality and energy efficiency of these compact industrial brakes, but ultimately also the systems' users and operators", says Franz Eisele, also responsible for the brakes division at RINGSPANN. The brakes in the EV and EH series are suitable for the realisation of both active and passive brake concepts, since they can be supplied in a spring-operated / electromagnetic-released version and in an electromagnetically operated / spring-released version. Furthermore, they can be mounted parallel or vertical to the brake disc, and adapted to brake discs with thicknesses ranging from 8 to 30 mm. "This offers broad freedoms in construction; especially in cases when it is not possible to freely define the brake disc thickness or to define it in advance", explains divisional manager Eisele.

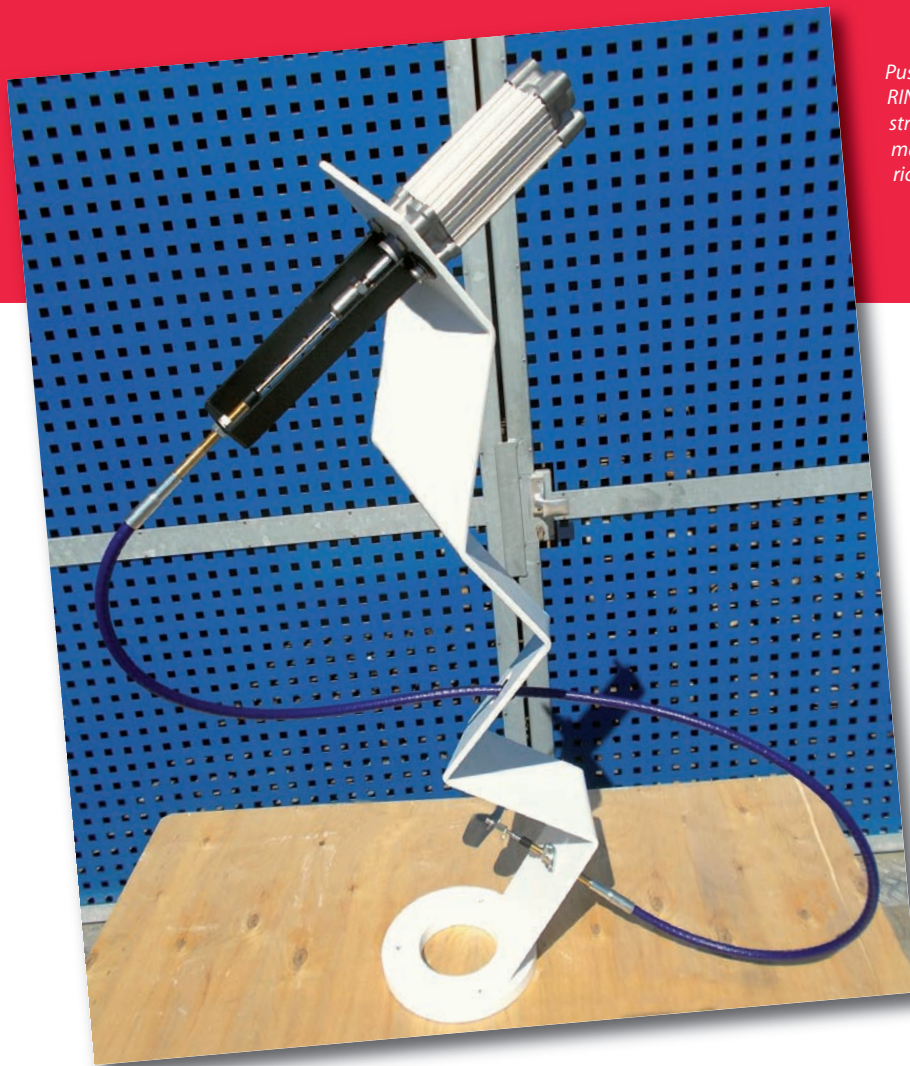
Typical areas of application for these RINGSPANN brakes are for example the turbine, ventilator and fan industries, ma-

chine tool construction, winch and winding technology, the wind power industry and general drive technology. They are designed for supply voltages of 230 to 415 VAC (50/60 Hz) and are available in 16 basic types with clamping forces of 1.8 to 24 kN. A remarkable technical feature of the EV / EH brakes is that they make do with minimal power consumption throughout the entire holding phase; for the small sizes this means a mere 10 watts.

The electrical brakes of RINGSPANN also convince thanks to features that are of particular interest to the plant operator. The braking torque, for example, can be easily and precisely adjusted via an adjusting nut, and worn friction blocks are replaced in no time – since the brake does not need to be dismantled to do so. Furthermore, the sensory monitoring of the brake function (open/closed) and the degree of wear of the brake pad improve both the handling and the safety level. "With regards to Industry 4.0 applications, we have also ensured that the monitoring functions can be easily integrated into superordinate control systems of machines and systems", says divisional manager Franz Eisele.



The electrical disc brakes of RINGSPANN. They achieve clamping forces of up to 24 kN and are suitable as holding or emergency stop systems for many industrial applications. The figure depicts a EV024FEM-type brake.



Push/pull cables from RINGSPANN RCS used as a stroke extension for pneumatic, hydraulic or electrical cylinders.

Forces transferred mechanically

To round off its trade fair appearance at this year's SPS, RINGSPANN will be showcasing various exhibits from its subsidiary RINGSPANN RCS, which is specialised in the manufacture of high-grade remote control systems. Here, it is push/pull cables particularly that – primarily for reasons of safety and energy efficiency – have long been subject to growing demand in industrial drive technology. They serve the alternating power transmission and are suitable for all applications where forces need to act between spatially separated, fixed modules – also and particularly when it must be possible to separate the connection of input and output force through a flexible system. The excellently crafted cable systems are intrinsically safe, maintenance-free, extremely flexible, protected against splash water and convince thanks to excellent sliding properties. They are – depending on the design – designed for very small bending radii and actuation cycles of 1.0 million and more.

At the RINGSPANN trade fair booth 274 in hall 3, the use of such a push/pull cable as a stroke extension of a cylinder is

depicted by means of a technical sculpture. "Such a cylinder can operate pneumatically, electrically or hydraulically; the force applied by it is transferred by our flexibly mounting cable system purely mechanically, free of disturbances and absolutely reliably", explains RCS managing director Christian Kny.

Continuous expansion

With this year's appearance at the SPS in Nuremberg, RINGSPANN once more marks its development from a traditional supplier to an international full-range supplier for high-grade components in industrial drive technology. This modernisation process began approx. three years ago, and has since been pursued unwaveringly by the company's senior management. At SPS, the RINGSPANN management will also be providing information on upcoming product offensives and the next steps with regards to the establishment of further international subsidiaries. <<

December

The extended arm of the cylinder



Christian Kny
General Manager of
RINGSPANN RCS GmbH

Everywhere in mechanical engineering and plant construction, pneumatic, hydraulic and electrical cylinders enable the automation of linear kinematics. However, it is not always possible to position the linear drive right at the heart of the action. Confined installation spaces, dirty surroundings and high temperatures can present an obstacle to this, just like risks of explosion and radiation exposure. In such cases, clever engineers turn to RINGSPANN RCS' mechanical push/pull cables. And that is because the flexibly layable remote control systems allow lifting forces of linear drives to be safely transferred across many metres. Read here about which projects the power cable specialists from Oberursel are currently working on.



Whether it's about the use of lean pneumatic and electrical cylinders in automation technology, or the use of strong hydraulic cylinders in machines in the construction industry or the coal and steel industry: Engineers everywhere find themselves confronted with the problem that power-inducing linear cylinders cannot be positioned right at the heart of the kinematic action. And there are plenty of reasons for this. Usually it is a lack of installation space and particularly demanding operating conditions (e.g. dust, heat, radioactivity) that force the spatial separation of drive and actuator. To get the necessary forces safely to their moving destination despite this, just ask the remote control system specialists at RINGSPANN RCS in Oberursel near Frankfurt am Main. They have worked on various different projects on specific system solutions where lifting forces – generated through pneumatic, electrical or hydraulic cylinders – are transferred mechanically via flexibly laid push/pull cables. "The groundwork to ensure that this can be carried out permanently free of disturbing influences and with a high degree of reliability is provided by decades of acquired expertise in kinematics and tribology, along with the daily practical work with the push/pull cables from our broadly diversified overall range", says Christian Kny, managing director of RINGSPANN RCS.

Refuse collection vehicles, concrete saws and robots

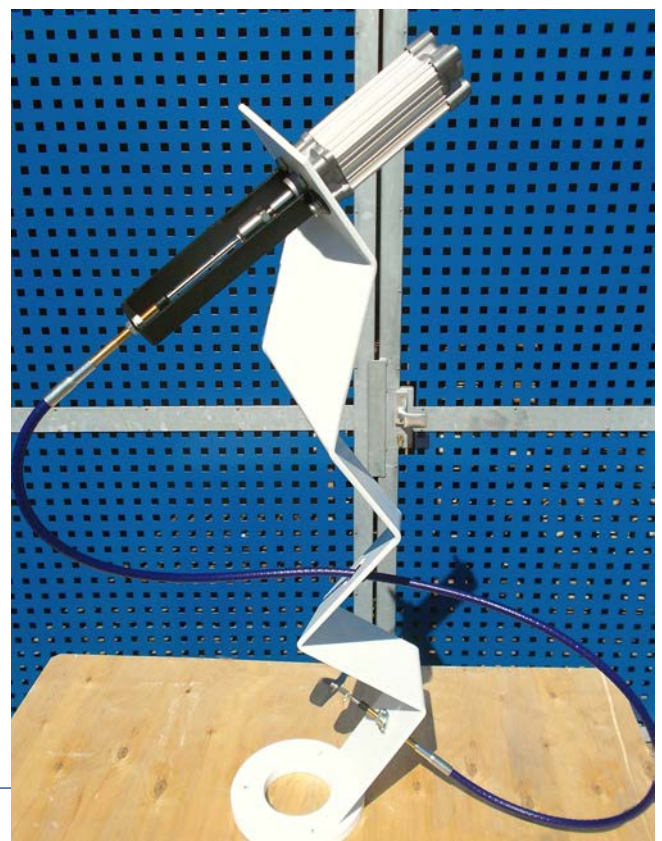
RINGSPANN RCS' projects, usually initiated by customers, address issues like how hydraulic cylinders of lifting and tilting devices of refuse collection vehicles can be kept out of the dirty area, or how concrete saws can operate efficiently without needing to upgrade their hydraulic linear drives to situate them in the dusty sawing zone. Christian Kny also makes reference to a highly ambitious innovation project: "For applications in industrial automation, we are currently focusing on how we can relieve the burden on the built-in drive modules of modern articulated and portal robots and instead control their kinematics from remotely positioned adjust cylinders via mechanical push/pull lines. The robot could then be greatly simplified from a constructional point of view, could be designed much lighter, and in fact would in fact act more quickly at the end of the day." Elsewhere, the specialists of RINGSPANN RCS are working on realising synchronised multi-cable systems that can transfer particularly large forces of hydraulic cylinders.

A million cycles and more

These kinds of engineering projects can only be carried out because RINGSPANN RCS' mechanical cable systems are high-grade manufactured, quality products. They are designed for more than 1.0 million cycles and convince thanks to excellent sliding properties. Furthermore, they are intrinsically safe, maintenance free, extremely flexible and protected against splash water. In general, they prove to be an ideal solution for all applications where forces need to act between spatially separated, fixed components, but where it must be possible to separate the connection of input and output force through a flexible system.

Depending on the model and depending on the stroke, bi-directional push/pull cables from RINGSPANN RCS can be used to transfer pushing forces of up to 3,150 N and pulling forces of up to 4,500 N. In practice, these standard values cover a broad range of applications. In project work, however, they often only serve as a rough orientation. "When developing and engineering customer-oriented system solutions, other design parameters often have a greater relevance – for example the continuous operation safety and functional safety, possible laying radii, response behaviour, or the suitable design of the end parts", stresses Christian Kny.

By the way: If there's no time to conduct a comprehensive development project, from certain batch sizes RINGSPANN RCS also offers the option of coordinating and configuring common standard types of its push/pull cables from the standard range to customer specifications. <<



Advertising motifs

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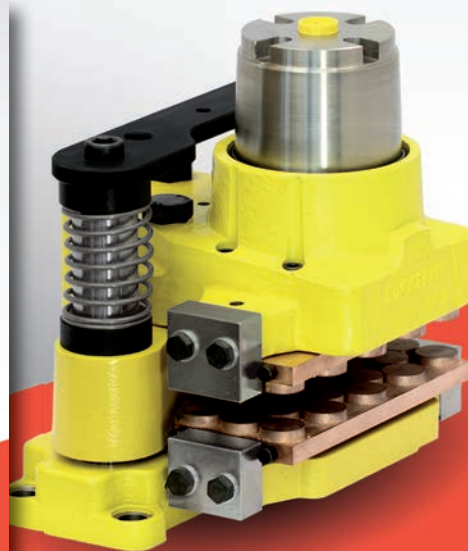
Schrumpfscheiben • Konus-Spann
6,5 - 4 225 000 Nm

BREMSEN

hydraulisch • pneumatisch • elektrisch
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FREILÄUFE

Rücklaufsperrern • Überholkupplungen • Vorschubfreiläufe
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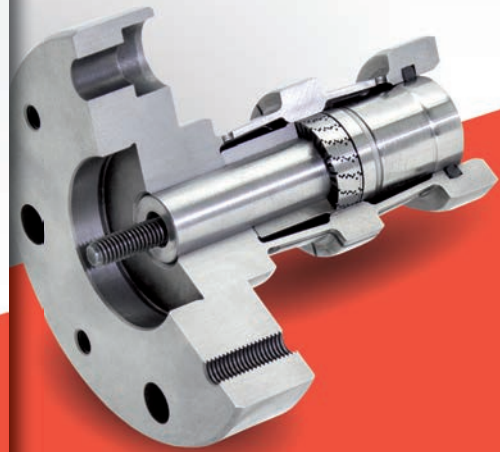
Spannfutter • Spanndorne • Spannkupplungen
7 - 560 mm

WELLENKUPPLUNGEN

starr • drehstarr • drehelastisch
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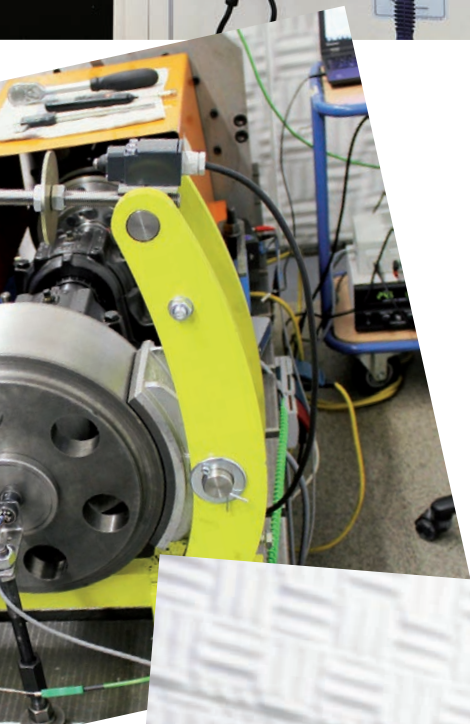
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