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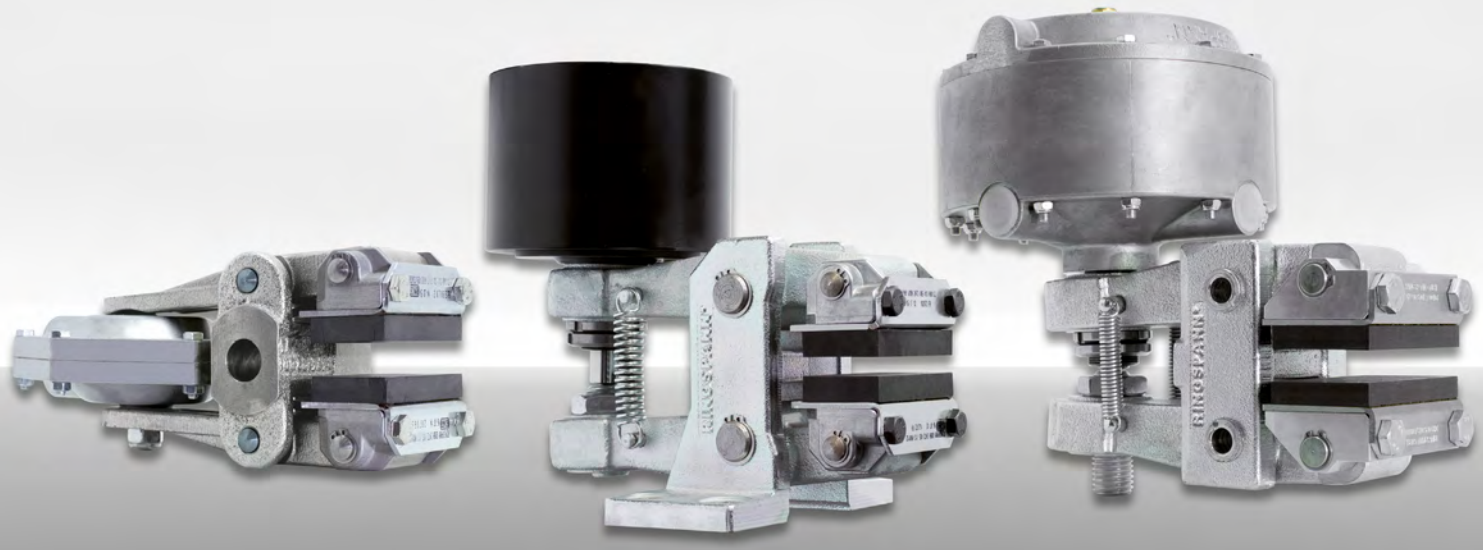


"Deep into all areas of mechanical engineering"

Franz Eisele
Head of Division Brakes, Couplings, Clamping Fixtures and Shaft-Hub-Connections at RINGSPANN GmbH

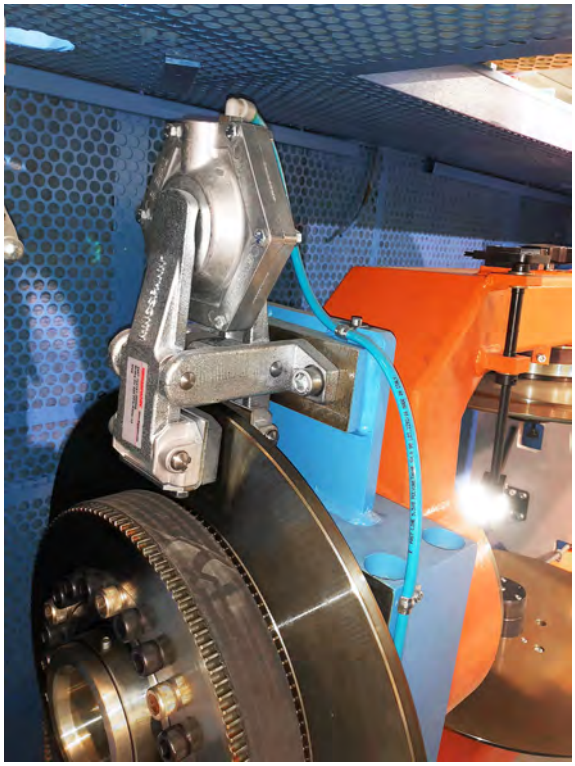
With its current range of industrial brakes, RINGSPANN now covers all areas of application in modern mechanical and plant engineering. In particular, disc brakes of the DH, DU and DV series have established themselves as permanent fixtures here. Thanks to the company's one-stop shop philosophy, they are quickly available, can be configured for specific applications and combined with other components to create ready-to-install smart solutions. In traditional mechanical engineering, these brake callipers currently perform many different tasks.

In the recent past, RINGSPANN has significantly expanded its one-stop shop, especially in the industrial brake category. This means that designers and development engineers in the mechanical and plant engineering sector now have a large selection of disc and drum brakes that open up a great deal of scope for the implementation of high-performance emergency stop, control, positioning and holding functions. "Across all model types, we cover braking torques from 10 to 38,500 Nm. Equally important, however, is that we can adapt each brake to the customer's needs and, if desired, combine it with other components from our one-stop shop – such as couplings, shaft-hub connections and brake discs – to create easy-to-install smart solutions," says Franz Eisele. What the head of the RINGSPANN Brakes and Couplings Division means in concrete terms can be illustrated by the many project solutions that focus on the brake callipers of the company's DH, DU and DV series.

Smaller motors thanks to optimum brakes

When, for example, a fan manufacturer needed a universal brake that was suitable for centrifugal fans of several sizes as part of the reduction of its bought-in components, RINGSPANN was able to fulfil this wish with a DH 020 PFK. This brake calliper is pneumatically operated and spring-released, is suitable for 12.5 mm thick brake discs and is mounted at right angles to the brake disc. "Like many of our solutions, the highly standardised system can be configured and ordered directly in our webshop," emphasizes Franz Eisele. Elsewhere, it was a plastics technology plant manufacturer who, thanks to the DH 035 FPM brake type, was able to use

smaller, more cost-effective and low-maintenance motors for its drives. This spring-actuated and pneumatically released brake calliper can be equipped with different thrusters and adapted to brake discs of different thicknesses. It is attached at right angles to the brake disc. The precision with which RINGSPANN is able to adapt its brakes even to applications with high accuracy requirements can be seen in the example of a automated machine for deburring flat glass elements. In this case, it is a DH 005 PFK that holds the sensitive workpiece precisely in position during wet machining by a diamond grinding wheel. "This compact brake is a customized solution. It significantly increases the effectiveness of deburring," says Franz Eisele.



Braking system as a smart solution

On the other hand brake systems of the DU class from RINGSPANN are used in special machines for the production of spherical and rolling elements. For the implementation of emergency stop solutions for operator protection, the designers choose the DU 060 FPM variant, for example, which is then equipped with oil-resistant friction linings. This spring-actuated and pneumatically released brake calliper already offers by default a high degree of flexibility: it can be mounted parallel or at right angles to the brake disc and can be provided at short notice with eight different thrusters mounted on the right or left side.

A concrete example of the implementation of a smart solution is the use of a DU 060 PFM in a centrifugal casting plant for pipe production. "Here we delivered the brake system as a complete solution, including a brake disc and cone clamping set for the shaft-hub connection. The customer thus receives everything they need for installation from a single source," says Franz Eisele. In this case, the braking system replaces a combination of frequency motor and stopper, which is complex in terms of control technology and was assessed as being too sluggish for emergencies and failures.

It covers three tasks at once: the fast, controlled slowing down of the drive, the safe "freezing" of the rotation when setting up the system, and the emergency stop function. The bottom line is that the machine manufacturer was able to achieve shorter cycles, simplify set-up operations, reduce the stopping times in case of emergency stops and reduce the number of its suppliers.

Complete with clamping sets and couplings

"We also go deep into all areas of mechanical engineering with the brakes in our DV series," says Franz Eisele. As an example, he cites the use of ten brake callipers of the DV 030 FPM variant in the radial carriage of an aerospace riveting machine. The disc brakes are part of the positioning and safety system: on the one hand, they fix the mobile radial carriage when riveting, and on the other hand, they stop the drive in the event of a gearbox damage. RINGSPANN also supplies these spring-operated and pneumatically released disc brakes for the positioning systems of robot-assisted welding cells, as components for tension control in wire drawing plants, or as a holding system in weaving machines. "We are currently increasingly providing plant manufacturers – for example in stranding, winding or plastics technology – with tailor-made DV brakes with matching brake discs, couplings, shaft-hub clamping sets, push and pull cables and hand levers as ready-to-install smart solutions," reports Franz Eisele.

Owing to their reliability and versatility, RINGSPANN brakes of the DH, DU and DV series are in great demand in many areas and niches of mechanical and plant engineering. However, the company offers numerous other types of brakes in its one-stop shop that are of interest to designers of drive systems for production machines, conveyor systems or assembly systems. Worth mentioning at this point are, for example, the hydraulically released disc brakes of the HW- and HS-series – also suitable for heavy-duty applications – or electromagnetic EV- and EH-brakes, which are characterized by their particularly compact design. <<

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