

Power Transmission / Design Engineering / Automation / Robotics / Intralogistics / Mechanical and Plant Engineering

Compact and economical high-speed circuit breaker

MV FEM brake series from RINGSPANN impresses with its performance and energy efficiency

The spring-activated and electromagnetically released MV FEM series brake calipers from RINGSPANN set standards in terms of switching performance, design and energy efficiency. They offer designers in many key industries a modern disc brake solution for a wide range of industrial applications. They are available in three variants with clamping forces of up to 25,000 N, have an innovative closing mechanism and can compensate for axial asymmetries of the brake disc.

Bad Homburg, September 2025. – MV FEM series brake calipers are among the latest innovations in RINGSPANN's disc brake portfolio. They are spring-actuated and electromagnetically released industrial brakes which, due to their compact design and technical properties, are suitable for a variety of different holding, emergency stop and deceleration applications in mechanical and plant engineering, automation technology and intralogistics. They are now even used in railway and airport technology. "They show their particular strengths above all where fast switching in short cycles is required and integration into the drive technology environment places increased demands," says Leon Friebe, brake specialist at RINGSPANN. Among other things, this is a reference to two quality features of the MV series: electromagnetic release, which gives the brake an hourly output of up to 360 switching operations, and the floating bearing, which is able to compensate for axial tolerances of the brake disc. Apart from the already very compact design, this offers the designer considerable freedom – even if only limited installation space is available. Another factor that reduces the design expense is the integrated and preconfigured electronics for automatic power reduction. "This makes a decisive contribution to the high energy efficiency of the brake, as it reduces the power requirement to up to 20 watts when open. This energy advantage is particularly evident if the brake is mainly operated in an open state," emphasises Leon Friebe.

Wear-optimised and closed

Currently, the MV brake calipers from RINGSPANN are probably among the most agile and economical electric disc brakes to be found on the world market. Since they are also available in three frame sizes, for different supply voltages (220 to 480 VAC) and as standard for disc diameters from 200 mm, they prove to be an extremely versatile brake solution. "Their robust construction and wear-optimised, closed design make them interesting not least for challenging environments with regard to thermal, mechanical and moist conditions, and give them a long service life," explains Leon Friebe.

Also worth mentioning: a patented locking mechanism gives the brakes an above-average air gap with only minimal loss of spring force during bridging.

All three variants of the MV brakes are mounted parallel to the brake disc on the machine or system. To compensate for operational friction block wear, all three versions offer the option of manual adjustment. As an option, RINGSPANN also offers an inductive encoder for sensor monitoring of the wear level as well as another sensor that detects the status "brake open/brake closed". Keyword Industry 4.0: this sensor technology can be connected to higher-level safety and control systems. Maintenance work is facilitated by the fact that the brake is subject to only a low mechanical load when open. Thanks to its compact dimensions and the use of standard fasteners, it is also very easy to retrofit, and the low own weight of RINGSPANN's MV brakes proves to be advantageous when integrated into moving units.

Attractive alternative

The brake calipers of the MV FEM series are an innovative addition to the RINGSPANN portfolio of electric disc brakes. They open up new perspectives for designers of drive systems and are particularly attractive when users and operators shy away from the high installation and maintenance costs of hydraulic and pneumatic brake systems. In addition to the areas of application mentioned at the beginning, the typical areas of application for MV brakes from RINGSPANN also include machine tool construction, turbine, fan and ventilation technology, winch and winding technology and the wind power industry. *ar*

591 words with 4777 characters (with spaces)

Author: Alexander Regenhardt, freelance specialist journalist, Darmstadt

Note for editorial staff: Text and images available at www.pr-box.de!

Captions (4 pictures)

Figure 1: Installed between the motor and gearbox: The compact MV brake from RINGSPANN in a versatile rope drum drive.

Figure 2: The electromagnetic ventilation, floating bearings and compact design of the MV brake from RINGSPANN offer the designer considerable freedom – even with limited installation space.

Figure 3: Leon Friebe: "Our MV brakes show their particular strengths above all where fast switching in short cycles is required and integration into the drive technology environment places increased demands."

Figure 4: All three versions of the RINGSPANN MV brake are mounted parallel to the brake disc. To compensate for operational friction pad wear, all versions offer the option of manual adjustment.

All images: Ringspann

((Infobox))

Redundantly secured and energy-efficient

The electronics of the electric disc brakes from RINGSPANN work extremely reliably and ensure the functional operation of the brake. They are redundantly protected against voltage peaks and in the event of a mains fault, the functionality of the generously dimensioned switching transistors is

guaranteed at all times. In addition, RINGSPANN has been able to reduce the required tightening performance of the latest brake generation by up to 20 percent. The magnetic circuit was optimised with the help of modern FEM calculations. The result is very compact magnets and an optimal interaction of magnet and electronics.

81 words with 663 characters (with spaces)

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