

Press Information

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World's first innovation in power transmission for rotary indexing tables and rotating indexing spindles

HIRSCHMANN introduces patented solution with conductive microfiber rings instead of carbon brushes for EDM machining

HIRSCHMANN GmbH presents world's first novelty: power transmission without carbon brushes in rotary indexing tables and rotating indexing spindles for EDM machines. Therefore the company's engineers developed a process, in which the current in rotating indexing spindles is transmitted directly to the shaft and along to the work piece by a hundred thousands of conductive microfibers. As result of reconstruction the current supply can be integrated into the housing of the rotary indexing tables. HIRSCHMANN presents this innovation for the first time on AMB Stuttgart, International Exhibition for metal work, 13 – 17 September, 2016 in hall 7, stand C59.

Essential advantages of this innovation are significantly improved process reliability, no maintenance for life of power transmitting contacts, no contamination and no friction. HIRSCHMANN already delivered the first rotary indexing tables and rotating indexing spindles with new technology, in many future products this novelty is fitted as standard.

Usual practice in wire erosion is power transmission by carbon brushes made of copper alloy – as close as possible at the work piece. But abrasion caused by rotation brings dirt into the water bath. Besides used carbon brushes must be changed regularly and that causes unnecessary service times and costs.

Maintenance free use for life

With the innovation of HIRSCHMANN problems like abrasion of the contact surface are resolved permanently. By power transmission with microbrush technology practically there is no wear even at high speed and cleaning and service efforts for the operator are significantly reduced. The current supply sitting inside the sealed shaft housing guarantees maintenance free use for life. Based on performed tests, the fiber wear length is calculated for an expected life of 200.000 operating hours – so the brushes last for the whole life of axis motor.

Because of minimum fiber pressure friction loss is no problem in the new technology. Current is brought all-over to the whole shaft and not only punctually at two contact surfaces.

Essentially improved process reliability

Essential advantage of this patented power transmission has significantly improved process reliability during erosion process. In previous process the contact faces and the mechanics of brush holders can get muddy by eroding particles in the water bath, thus increasing the probability that power transmission and eroding process are disturbed. Sometimes parts are even damaged after machining. Especially for high-quality parts with a long machining time this causes high costs. In patented power transmission by HIRSCHMANN contamination is excluded. During the whole machining process current is transmitted permanently – constantly excellent parameters and eroding results are reached. HIRSCHMANN has proven this in many test runs, in which the new process was tested intensively on different machines and with different work pieces and various parameters like roughing, finishing or maximum cutting performance.

Another great plus of this patented process is the integration of current supply inside the housing. Current supplies lying outside can get in contact with abrasion particles during eroding, internal supplies are absolutely protected and always clean. So constant flow of current is possible.

Upgrade for existing eroding machines

In new developments of HIRSCHMANN rotary indexing tables the required assembling space to integrate the power transmitting rings is already included. Even for mini spindles with restricted space a solution could be found. But not only the buyers of new machines can benefit from the advantages of the world's first innovation, in certain cases a refitting of already existing products is possible without larger effort. For this upgrade HIRSCHMANN offers its support – either in their factory or direct at the customer. For machines in the field this obviously improves additionally process reliability.



Mini rotating spindle with maintenance-free power transmission, 1/ conductive micro brushes

Picture: HIRSCHMANN GmbH

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Visit us on exhibition AMB 2016, hall 7, stand C59

Visit us on exhibition IMTS 2016, E-4812 Pavilion: EDM Pavilion

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About HIRSCHMANN

For more than 50 years HIRSCHMANN develops and manufactures trendsetting products amongst others for vehicle construction, motor sport, aerospace, railed vehicles, mechanical engineering, naval architecture and wind power plants. The core competences are lying in three product lines Rod Ends and Spherical Bearings, Rotary Indexing Tables and Reference Systems. In these sectors HIRSCHMANN has extensive expert knowledge as well as experience for decades and can offer beside a varied standard assortment also customer-specific solutions. The medium-sized enterprise from Baden-Württemberg with sales representations in US and China has actually about 200 employees.