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RUN-IN GEOMETRY OF BRUSHES FOR SLIP RING TRANSFER SYSTEMS

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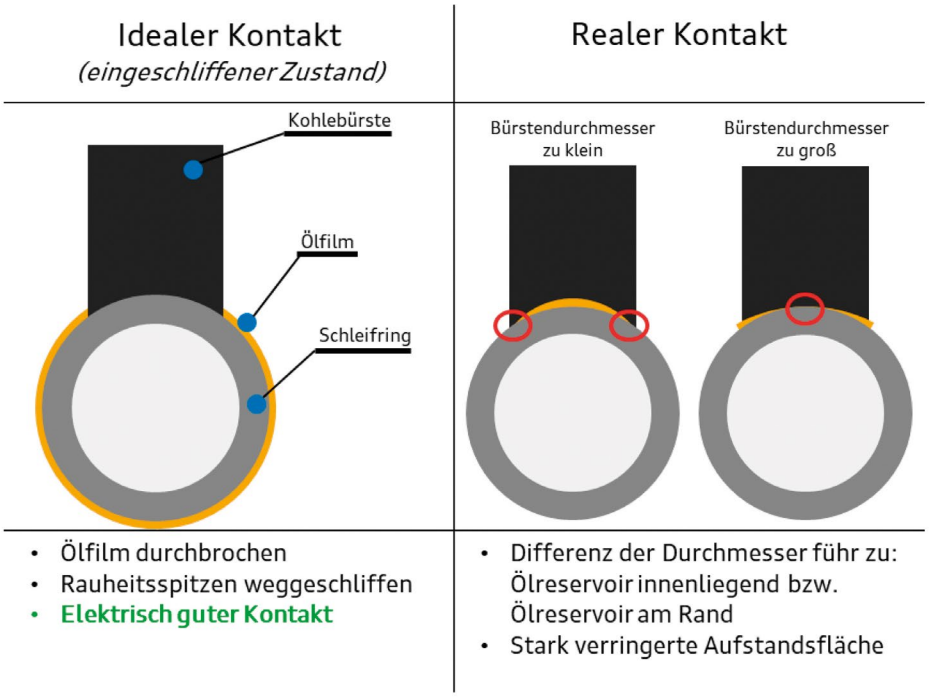
Current status
Brushes of slip ring assemblies are currently designed geometrically based on the slip ring diameter, which initially does not pose a problem in widespread dry-running systems.

Disadvantage
During the run-in phase, however, the two contact partners never have exactly the same diameter due to manufacturing tolerances, so that cavities form in addition to a small contact surface. Especially in new types of wet-running systems, these cavities fill with oil and lead to erosive damage even before the system reaches a run-in state.



New idea
The brushes should be geometrically designed in such a way that a defined contact surface is created in the run-in phase without cavities forming.

Advantages
- uniquely defined contact surface in the run-in phase
- the formation of cavities is prevented; erosive damage is avoided

Technical implementation
Brushes of slip ring transfer systems are usually made of sintered materials or, more rarely, of solid metal. Sintered brushes can be manufactured in the desired geometry to suit the tool. In this case, it is also possible to use a second, softer material for the run-in area in order to shorten the run-in process. In the case of solid metal brushes, the geometry must be produced by machining.

Two brush geometries are shown below as examples, which have a correspondingly defined contact surface: