

## **Plug-in Brush Holders by Schunk**

Safely changing and checking the brush of running motors

# Market Leaders

## Schunk Plug-in-Brush Holders – the Zenith of Quality for Decades

Schunk has been developing and selling plug-in brush holders and plug-in elements of the highest quality for more than 35 years. Schunk's holders and elements guarantee safety when changing the carbon brushes, even when the motor is running.

Schunk plug-in brush holders offer optimal protection from unintentional contact with rotating and current carrying machine components.



Safe energy production with Schunk plug-in brush holders. Photo: KKW Marl

## Decisive Advantages through more Know-How

Many leading industrial manufacturers, among others several power stations, rely on plug-in brush holders and plug-in elements by Schunk. Our know-how offers decisive advantages when compared with our competitors.

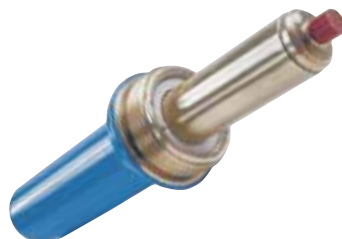
Schunk has extensive global experience with carbon brushes and with application safety. Schunk plug-in brush holders and plug-in elements have proven themselves over a long period of time, particularly in applications where a high degree of safety is relevant.

Schunk plug-in brush holders and plug-in elements are undoubtedly among the market leaders worldwide. The reliability of the entire assembly arises from the outstanding quality of the individual components.

*Plug-in brush holder housing/ insulated handle lever with flex, compression spring and locking pin.*



*Telescopic pressure apparatus ensures constant and even pressure is applied to the carbon brush.*



*Carbon brush by Schunk with insulated brush shunt.*



*Plug-in brush holder housing. This is where the Schunk brushholder locks in with a "Click".*



*Plug-in brush holder in the safety version: brush changes on a running motor can be done faster and safer. Perfect protection against electrically active components*



*Clamp with serrated surface. Depending on the type of machine, specially designed.*



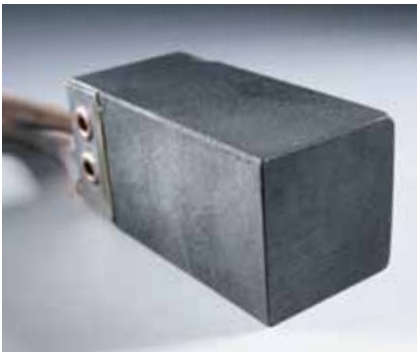
# Quality Down to the Smallest Detail

## Schunk Plug-in elements for Commutators

The Schunk plug-in element was primarily developed for use in commutators. In this application, the functions of holder mounting and plug-in brush holder housing have been separated.

The function of holder mounting has been taken over by the plug-in element. Brush holders with mounting pockets are used as plug-in brush holder housings.

Depending on the particular design, one or more brush holders can be mounted on the plug-in element.

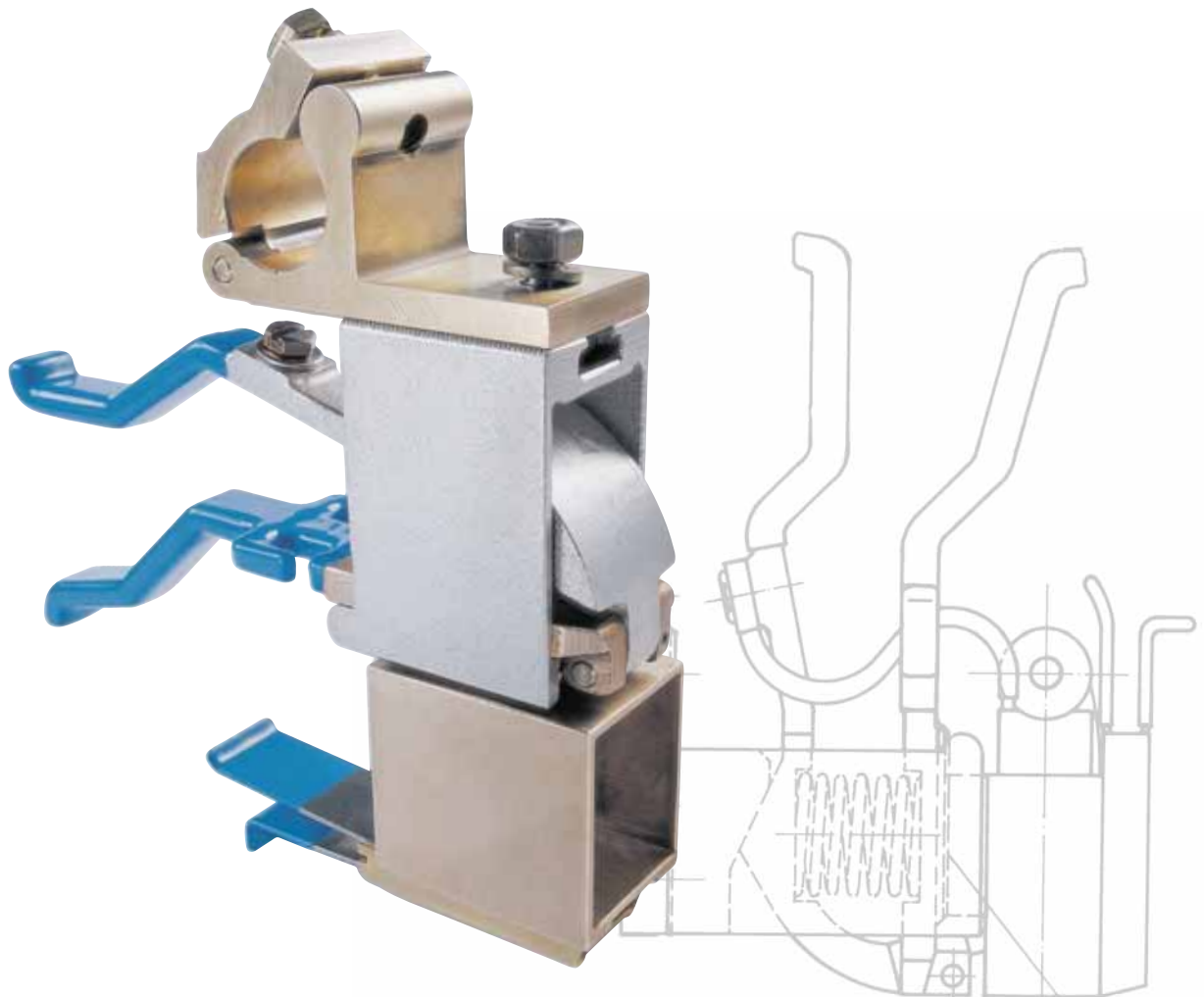


*Schunk carbon brushes are among the most reliable products of their kind worldwide.*

## The Right Operating Position

In order to allow insertion or removal of the plug-in element on a running motor with the same degree of safety as with plug-in brush holders, additional measures must also be taken here in the form of a covering which prevents contact with current carrying or rotating parts.

Parts located near the handle lever are insulated, as in the case of plug-in brush holders. For safe handling, the plug-in element and corresponding housing have been designed in such a way that the plug-in element automatically locks when inserted all the way to the end stop.



## Handling

The plug-in element, which consists of a handle lever with a compression spring and a locking pin, is pressed into the plug-in element housing.

The brush is locked into the plug-in brush holder housing by a locking pin in this design.

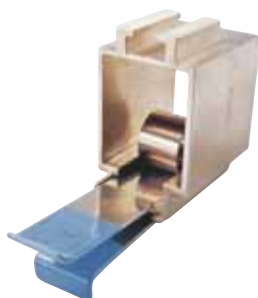
If the handle lever is released after inserting, it will set the plug in element and the attached brush holder into the correct position. This also establishes the contact between the plug-in element and the element housing. The locking of the brush is offset and it rests upon the commutator.

*Schunk plug-in brush holders,  
Photo: heat and power  
station Herne*

*Handle lever with protective coating and handle compression spring. The integrated locking pin locks the brush upon insertion.*



*Brush holder with a constant coil spring for constant pressure on the carbon brush.*



*Plug-in element housing. The inward side is tapered. Automatic "setting" upon insertion (CLICK).*



*Clamping piece with serrated flange surface, lock washer and attaching screw.*



# Safe Changing and Perfect Inspection

## Insertion and Removal “with a Turn of the Wrist”

To ensure safe changing, the holder and the brush are inserted and removed together on Schunk plug-in brush holders. The actual brush change takes place on the removed holder outside of the motor.

The plug-in brush holder and the corresponding holder housing are designed in such a way, that even inexperienced service personnel can safely carry out insertion and removal. In connection with a suitable covering, it is not possible to touch the rotating slip ring with the holder.

No tools are necessary for insertion or removal. Protective clothing and safety gloves should be worn at all times, however.



*Individual plug-in brush holders are grasped by the insulated handle lever. For safety reasons, safety gloves should additionally be used during this procedure.*



*The handle lever is pressed together and the plug-in brush holder is slowly withdrawn from the holding fixture.*



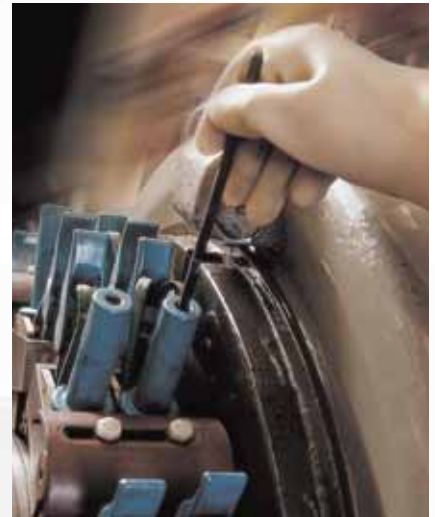
*If caution is exercised during removal of the plug-in brush holder, the risk of unintentional contact with current carrying or rotating machine components can be as good as eliminated.*

### Testing Brush length with a special Schunk Measuring stick

The measurement of brush height with the motor running presents no problem for Schunk plug-in brush holders. To do so, a special measuring stick (supplementary equipment) of insulated material is inserted into the telescopic pressure system. The marking rings indicate the remaining usable brush length.

Furthermore, the temperature of the brush contact surface and the surface finish can be inspected on removed brushes.

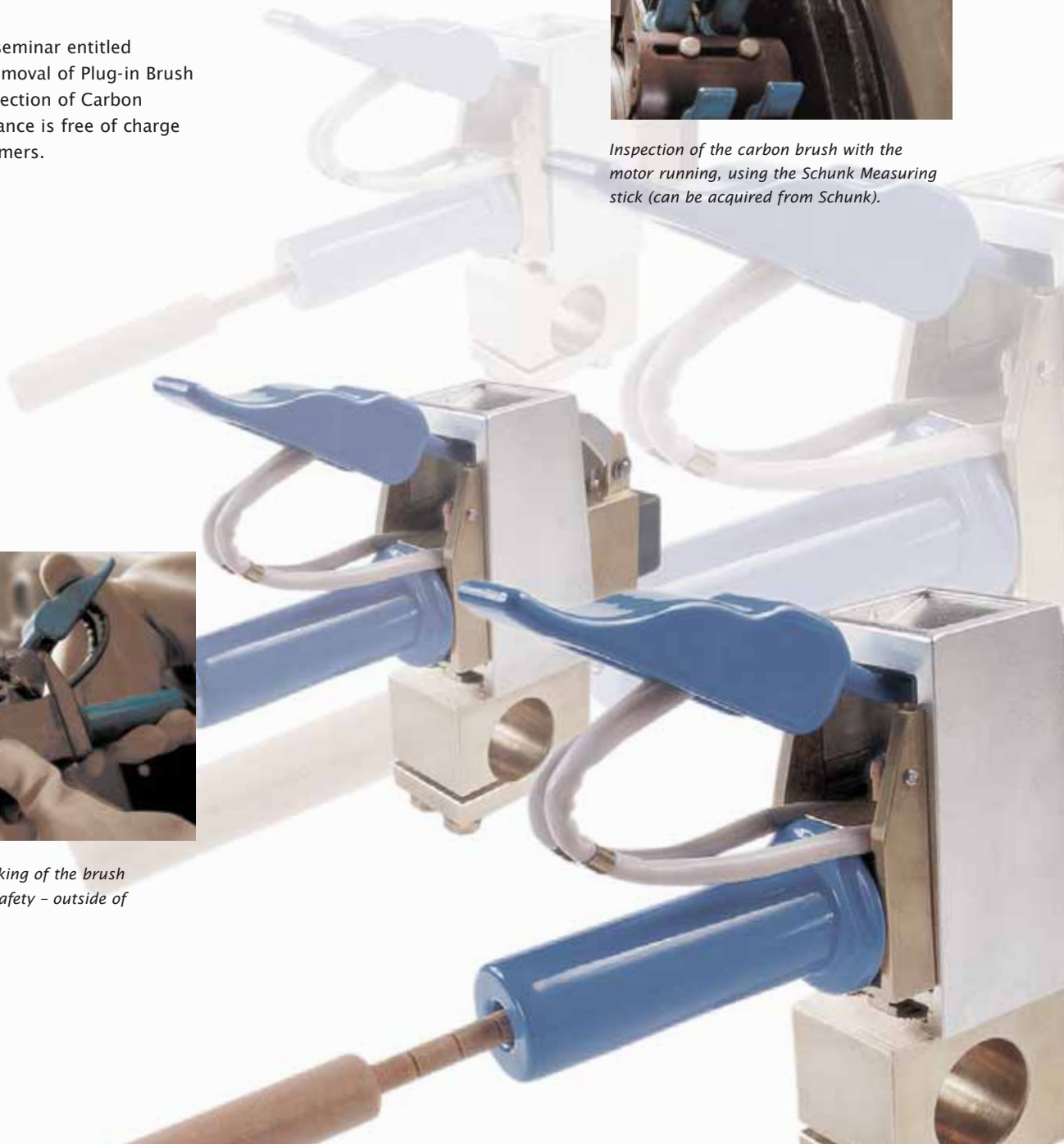
Schunk offers a seminar entitled "Insertion and Removal of Plug-in Brush Holders and Inspection of Carbon Brushes". Attendance is free of charge for Schunk customers.



*Inspection of the carbon brush with the motor running, using the Schunk Measuring stick (can be acquired from Schunk).*



*Changing and checking of the brush are carried out in safety - outside of the running motor.*



## **Information hotline**

If you have any questions about Schunk plug-in brush holders and plug-in elements or about their design and applications, we'd be glad to advise you.

## **Contact**

Call or fax

Mr. Werner Bepler

Telephone: +49 (641) 803-451

Telefax: +49 (641) 803-139

Mr. Wilfried Weigel

(Product Management)

Telephone: +49 (641) 803-153

Telefax: +49 (641) 803-139

E-mail

[werner.bepler@schunk-group.com](mailto:werner.bepler@schunk-group.com)

[wilfried.weigel@schunk-group.com](mailto:wilfried.weigel@schunk-group.com)

## **Schunk Bahn- und Industrietechnik GmbH**

Hauptstrasse 97  
35435 Wettenberg  
Germany

Telephone: +49 (641) 803-0

Telefax: +49 (641) 803-139

[www.schunk-sbiw.com](http://www.schunk-sbiw.com)