

# PHOENIX®

The Brush Holder Experts®

Proudly Introduces  
The Newest Member of Its Family  
of Constant Force Brush Holders

## The Phoenix Constant Force Modular Integrated Internal Brush Holder®

United States Patent No. 7402933  
Foreign Patents Pending

### Simplicity and Functionality

#### Single, unitary molded brush holder:

- simple, multi-functional design enables the combination of several separate and distinct parts into one
- high temperature, high strength material
- streamlined design significantly reduces tooling costs and greatly increases ease of manufacturability, assembly and maintenance
- highly economical

#### All the benefits of a constant force spring:

- true constant force to be applied throughout the entire travel distance of the carbon brush
- maximizes brush life
- superior commutation
- accurate and predictable spring pressure
- better motor performance

### Versatility and Scalability

- readily accommodates a wide range of constant force springs of varying pressures
- designed to be easily positioned at various locations within the motor housing to accommodate a variety of carbon brush lengths



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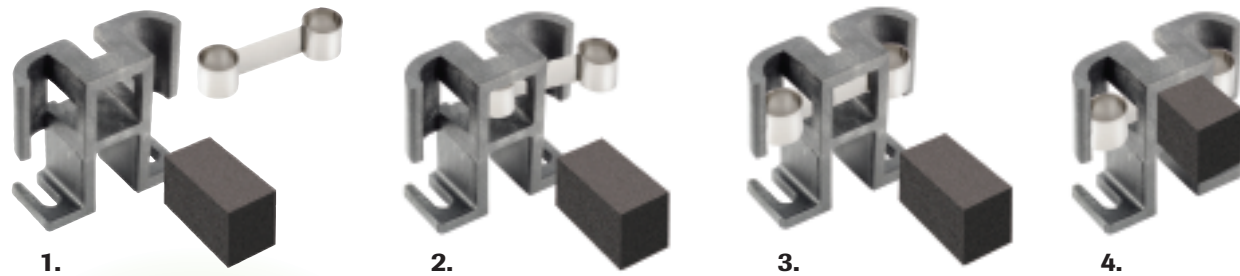
## Scalability, Simplicity and Cost Efficiency

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**Optimal Engagement of the Constant Force Spring = Longer Brush Life**



**The Phoenix Constant Force Modular Integrated Internal Brush Holder® permits an even, constant force upon the carbon brush during the life of the brush resulting in:**

- longest possible brush life
- consistent minimal wear rate of the brushes
- constant direction of the applied force of the brush
- reduced wear of the contact surfaces
- less carbon dust

## **A Revolutionary New Design Providing Maximum Brush Life**

The Phoenix Constant Force Modular Integrated Internal Brush Holder® offers a simple and multi-functional design. Its opposing, symmetrical curvilinear radii, which receive the coils of the constant force spring is the optimal surface upon which to engage the constant force spring and to maximize the functionality and constant force pressure of the constant force spring.

## **A Revolutionary New Design Providing Maximum Versatility**

The unique design of the Phoenix Constant Force Modular Integrated Internal Brush Holder® accommodates a variety of constant force springs of varying pressures providing for an interchangeability of spring pressures in a single brush holder. The design and style of the mounting legs and fastening system provides for unparalleled flexibility in positioning the brush holder, thereby allowing a multitude of lengths and styles of carbon brush to be used in a single brush holder and in a single motor without the necessity of redesign or retooling.

**Contact Phoenix Electric today to learn more about this highly economical brush holder system and how it can give your company and products a competitive edge in the marketplace.**



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