



## SILVER-GRAPHALLOY BRUSH AND LEAF-SPRING ASSEMBLIES (ELECTRICAL PICK-UP BRUSHES)

### Silver GRAPHALLOY Brushes

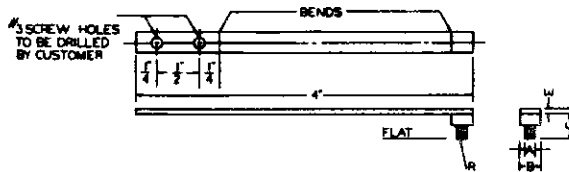
Where strain gages and thermocouples are used on rotating equipment, the low signal measurement must be carried out of the rotating equipment using slip rings and brushes. In order to obtain intelligible information, the noise level must be kept below the signal level. Since silver GRAPHALLOY brushes, and coin-silver slip rings reduce noise levels to extremely low values, they have been used extensively in rotating strain gage and thermocouple applications.

Silver GRAPHALLOY brushes conduct currents ranging from instrument and signal levels to power ratings. Successful applications include such exacting equipment as transducers, strain gages, thermocouples, synchros, guided missiles, fire control apparatus, servomechanisms, selsyns, azimuth measurements, dynamotors, and radar, sonar, and avionic installations. Normally, three silver GRAPHALLOY brushes are installed on each coin-silver slip ring to ensure a low noise contact and signal continuity.

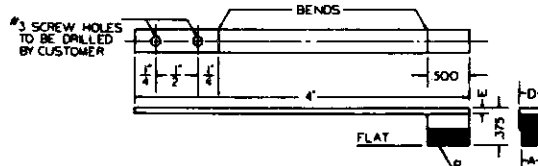
### Leaf-Spring Brushes-Experimental Use

Brush and leaf-spring assemblies are provided for use where space limitations prevent the use of brush holders. In order to provide experimental assemblies, we manufacture the types shown below. The springs of these assemblies can be bent and drilled to fit the requirements of your application. Normally, samples can be shipped from stock in small quantities enabling the design engineer to build prototypes.

Typical completed leaf-spring designs are illustrated on Data Sheet 135. GRAPHALLOY Cup Contacts (See DS 105 and DS 128) are available for assembly onto your own leaf springs. Standard coin-silver rings are shown in DS 870.



Part No.	Use with Coin-Silver Slip-Ring Width	Graphalloy Brush Dia. A	Cup OD B	Cup and Contact Length C	Spring Width D	Spring Thickness E	Suggested Operating Pressure
TS 109124-4	3/16	1/8	5/32	1/4	5/32	.032	1.2 oz.
-5	1/4	5/32	1/4	1/4	1/4	.032	1.8 oz.
-6	1/4	3/16	1/4	1/4	1/4	.032	2.6 oz.
-8	5/16	1/4	5/16	1/4	5/16	.032	4.7 oz.



Part No.	Use with Coin-Silver Slip-Ring Width	Width of Graphalloy Brush A	Spring Width D	Spring Thickness E	Suggested Operating Pressure
TS 109096-4	.187	.125	.250	.032	6 oz.
-6	.250	.187	.312	.032	9 oz.
-8	.375	.250	.375	.032	.12 oz.



GRADES OF MATERIAL

Copper GRAPHALLOY Contacts: Used where circuit is normally closed.

Cadmium GRAPHALLOY Contacts: Used where circuit is inductive and must be opened and closed frequently. These contacts provide long life when the normal current does not exceed 90 amperes per square inch and the starting current is less than 300 amperes per square inch.

Silver GRAPHALLOY Contacts: Used where low, constant contact drop and freedom from welding are especially important.

Other GRAPHALLOY Contacts: Used to meet special requirements.

CONTACT MATERIAL

Copper GRAPHALLOY  
Cadmium GRAPHALLOY  
  
Silver GRAPHALLOY

USUALLY USED AGAINST

Copper Contact  
Cadmium-plated Copper  
or Copper Contact  
Coin Silver Contact

DESIRABLE MECHANICAL DESIGN FEATURES

WIPING ACTION: Contactor should provide adequate but not excessive wiping action to keep contacts free from oxides and sulphides. A sliding or rolling motion may be employed to give the same effect.

CONTACT FORCE: Should be adequate but not excessive. Springs supplying this force should not be compressed to their solid length when contacts are closed.

BOUNCE: To be avoided or held to a minimum.



Special contacts can be designed to meet your particular situation.

If you are interested in further information or in an estimate on contacts, fill in and return our Contact Inquiry Sheet, Form 203. We shall be glad to give you recommendations based on our design experience.

*Standard and Custom-designed GRAPHALLOY® products since 1913.*

**GRAPHITE METALLIZING**

CORPORATION

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