

### INTRODUCTION

The brush assemblies on pages 16,17,18 and 19 are the standard leaf and plunger brush assemblies used on Fabricast slip ring assemblies. These assemblies can be used to replace worn brushes on Fabricast slip rings or for other applications in which the customer feels they would be adaptable. Our engineers will specify the best brush grade for both Fabricast built slip rings and for customer applications. Custom brush assemblies can be designed and manufactured for your specific application.

### BRUSH CONTACT MATERIAL

All slip rings and brush assemblies illustrated in the catalog are specified with FAG 180, our most common brush contact material. The following chart gives some basic information on FAG 180 and the most common optional brush contact materials.

#### Brush Contact Material Chart:

Brush Grade Number	Composition	Recommended Surface Speed	Carrying Capacity
<b>FAG 180</b>	80% Silver 20% Graphite	Up to 3500 feet per minute	250 amps per square inch
<b>FAG 180A</b>	80% Silver 20% Graphite plus MoS <sub>2</sub>	Up to 3500 feet per minute	250 amps per square inch
<b>FAG 150</b>	50% Silver 50% Graphite	Up to 6000 feet per minute	100 amps per square inch
<b>FAG 150A</b>	50% Silver 50% Graphite plus MoS <sub>2</sub>	Up to 6000 feet per minute	100 amps per square inch
<b>FAG 193</b>	93% Silver 7% Graphite	Up to 250 feet per minute	300 amps per square inch

Fabricast grade FAG 180 is the low noise level grade used for all standard brush assemblies. In general, a noise level of approximately 1 microvolt for each milliamp of current flow can be accomplished depending on the speed of the unit and quantity of brushes per ring.

Fabricast grade FAG 150 is the highest surface speed grade; however, noise levels are slightly higher than FAG 180. Brush life is approximately twice that of FAG 180. It is recommended when brush life is critical and/or surface speed is high. Low noise can be achieved with multiple contacts per ring.

Fabricast grade FAG 193 has the highest current carrying capacity of any grade; however, it is limited to a surface speed of 250 ft. per minute.

Fabricast grades FAG 180A and FAG 150A contain molybdenum disulfide in addition to silver and graphite. This additive is required for operation in altitude, vacuum, and inert environments. Other characteristics remain the same.

### LEAF TYPE *(See pages 16 & 17)*

Leaf springs for Fabricast leaf type brush assemblies are made of beryllium copper alloy #25. The leaf springs are heat treated and tin plated. The silver graphite brush contacts are soldered onto the leaf springs.

All leaf type assemblies illustrated on pages 16 and 17 are specified with FAG 180 brush contact material. For description of optional brush contact materials see page 14.

PART NUMBER CODING:  (Specify fully when ordering)	Type	Angle "X" (degrees)	Brush Grade Number	*Options (if applicable)
	X	X	X	X

**Example:** 1050006-2                      36                      FAG 180                      Hardware

**P/N: 1050006-2-36-FAG 180-Hardware**

- \*Options:**
- **Hardware:** Brush Assembly is supplied with mounting bolt soldered to leaf spring and shipped with required washers, nuts, and terminals.
  - **Phantom:** Brush Contact is soldered to opposite side of leaf spring as shown on page 17.
  - Consult Fabricast for additional options you may require.

#### Determination of Angle "X":

Angle "X" will be supplied by our engineering department for all Fabricast slip ring replacement brushes. For other applications specify angle "X" so that in free state BeCu leaf spring (without brush contact material) would just touch ring surface. This method defines a good starting point for proper brush pressure in most applications.

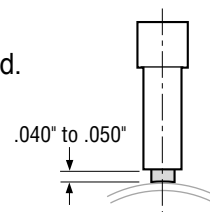
**NOTE:** ANGLE "X" DOES NOT APPLY TO TYPES 1799, 1120051, AND 8115.

### PLUNGER TYPE *(See pages 18 & 19)*

Plunger type brush assemblies consist of a brass holder with cap, a copper or BeCu buss assembly, and a spring loaded silver graphite plunger brush. Both holder and buss are tin plated.

Brush holders are usually press fit into a dielectric brush block or soldered/brazed to a buss which is bolted to the brush block. Proper brush pressure is achieved when brush holder is .040 to .050 inches from ring surface (see illustration).

All plunger type brush assemblies illustrated on pages 18 and 19 are specified with FAG 180. Refer to page 14 and following chart for optional brush grades and corresponding part numbers.



#### Plunger Brush Part Number Chart:

		BRUSH GRADE				
		FAG 180	FAG 150	FAG 180A	FAG 150A	FAG 193
BRUSH SIZE	3/32" Square	1072-1	1072-5	1072-11	1072-10	1072-14
	1/8" Square	1072-2	1072-6	1072-13	1072-12	1072-15
	3/16" x 1/4"	1913-1	1913-2	1913-3	1913-4	1913-5
	** 1/4" x 1/2"	1092003	1092003-31	1092003-29	1092003-27	1092003-25
	*** 1/4" x 1/2"	1991-1	1991-2	1991-3	1991-4	1991-5

\*\* FOR USE WITH BRUSH HOLDER P/N 1092006

\*\*\* FOR USE WITH BRUSH HOLDER P/N 1092012

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