

Grounding Systems - Matrix

	Brush Grounding System	C-Fiber Grounding (CFG) System	Bristle Brush	
Application Range	Work frequency	DC application and low frequency AC application < 100kHz *	High- to ultra high- frequency AC application kHz, MHz range	
	Grounding current	> 0 A	< 10 A	< 5 A [max. 10 A for < 30 s]
	DC-Resistance	0.1 to 30 µOhm	<0.1 mOhm	µOhm to mOhm
	Peripheral speed	< 90 m/s	< 120 m/s	< 90 m/s
	Bi-directional rotation	Yes, not S13/F19	Yes	Yes
	Interface requirement for installation	<ul style="list-style-type: none"> ↪ Recommended surface roughness Ra 0.8-1.2 µm, Rz 5 - 8 µm ↪ Slight oil influence possible 	<ul style="list-style-type: none"> ↪ Shaft made of steel ↪ Metallicly bright ↪ Low resistance to vehicle ground ↪ Max. surface roughness Ra 0.8, Rz 4 	<ul style="list-style-type: none"> ↪ Shaft made of steel ↪ Stainless ↪ Shaft diameter 100 - 1500 mm ↪ Max. surface roughness Ra 1.6, Rz 7
Material Properties	Industries	<ul style="list-style-type: none"> ↪ Wind ↪ Transit ↪ Ship ↪ Industrial motors ↪ Electrical motors in Automotive 	<ul style="list-style-type: none"> ↪ Wind ↪ Transit ↪ Industrial motors 	<ul style="list-style-type: none"> ↪ Turbo and Hydro generators
	Material specification	Various graphite grades available	With pyrolytic carbon coating	Soft metal with stainless metal wires
Key advantages	<ul style="list-style-type: none"> ↪ S13/F19 sandwich design - most popular earthing brush ↪ Big grade portfolio available - adaptable to all conditions ↪ Brush holders with micro switch wear indicator ↪ *Automotive application: work at shaft voltage frequency up to 50MHz with low wear rates 	<ul style="list-style-type: none"> ↪ Transfer of high frequency current (MHz range) ↪ Low wear and high durability ↪ Dust free operation without contamination of surrounding area ↪ High conductivity even under tough conditions ↪ Designs with microswitch available 	<ul style="list-style-type: none"> ↪ Micro switch status indicator ↪ Various arm lengths available 	