

# STARTING & CHARGING

## SERVICE DATA

031V0-01

Starter (1.4 kW type)	Rated voltage and output power		12 V 1.4 kW
	No-load characteristics	Current	90 A or less at 11.5 V
	Brush length	STD	15.5 mm (0.610 in.)
		Minimum	8.5 mm (0.335 in.)
	Spring installed load	STD	17.6 to 23.5 N (1.8 to 2.4 kgf, 4.0 to 5.3 lbf)
		Minimum	11.8 N (1.2 kgf, 2.7 lbf)
	Commutator		
	Diameter	STD	30.0 mm (1.181 in.)
		Minimum	29.0 mm (1.142 in.)
	Undercut depth	STD	0.6 mm (0.024 in.)
Starter (2.0 kW type)		Minimum	0.2 mm (0.008 in.)
	Circle runout	Maximum	0.05 mm (0.0020 in.)
	Yoke		
	Shut coil resistance	at 20 °C (68°F)	1.5 to 1.9 Ω
	Rated voltage and output power		12 V 2.0 kW
	No-load characteristics	Current	100 A or less at 11.5 V
	Brush length	STD	15.0 mm (0.591 in.)
		Minimum	9.0 mm (0.354 in.)
	Spring installed load	STD	21.5 to 27.5 N (2.2 to 2.8 kgf, 4.9 to 6.2 lbf)
		Minimum	12.7 N (1.3 kgf, 2.9 lbf)
Generator	Commutator		
	Diameter	STD	35.0 mm (1.378 in.)
		Minimum	34.0 mm (1.339 in.)
	Undercut depth	STD	0.7 mm (0.028 in.)
		Minimum	0.2 mm (0.008 in.)
	Circle runout	Maximum	0.05 mm (0.0020 in.)
	Yoke		
	Shut coil resistance	at 20 °C (68°F)	1.5 to 1.9 Ω
	Rated output		12 V 100 A
	Rotor coil resistance	at 20 °C (68°F)	2.1 to 2.5 Ω
Voltage regulator	Slip ring diameter		12.8 to 14.4 mm (0.504 to 0.567 in.)
	Brush exposed length		1.5 to 11.5 mm (0.059 to 0.453 in.)