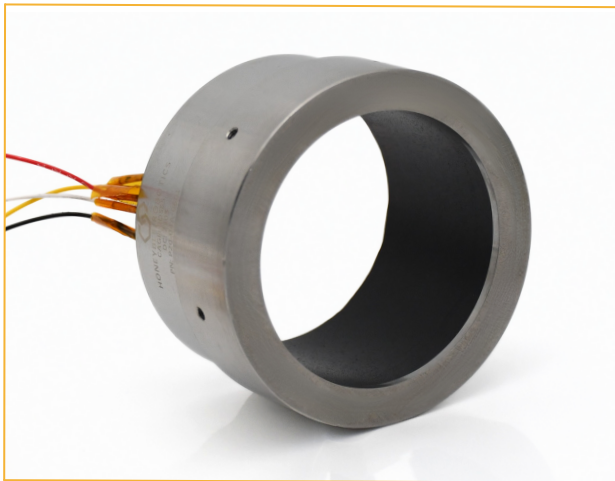


COGLESS MOTOR

Honeybee offers cogless brushless DC (BLDC) motors for applications requiring low torque disturbance or extremely precise rate control. Unlike the gearmotor products, these cogless motors are typically provided in a frameless configuration as a direct-drive solution. With its large throughbore, excellent thermal efficiency, and the highest continuous torque density in its class, Honeybee's cogless motor represents the state-of-the-art in precision motion control. We tailor specific motor parameters such as diameter, stack length, pole count, and winding characteristics to meet each customer's unique requirements.



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ACTUATORS & DAMPERS



C20 COGLESS MOTOR

RELEASE DATE: 2023-10-30

Frame Size (C20-ABC-XYZ-S): ABC = A.BC diameter in inches, XYZ = Axial length X.YZ in inches, S = Simplex										
	Parameter	Units	250-100-S	250-150-S	300-100-S	300-150-S	400-100-S	400-150-S	500-100-S	500-150-S
Electrical Performance (Sinusoidal Drive)	BEMF Constant (K_e)	$V_{pkLL}/kRPM$	25.65	38.48	34.2	51.3	42.75	64.13	51.3	76.95
		$V_{pkLL} * s / rad$	0.245	0.367	0.327	0.49	0.408	0.612	0.49	0.735
	Torque Constant (K_t)	Nm/A_{rms}	0.3	0.45	0.4	0.6	0.5	0.75	0.6	0.9
		$oz-in/A_{rms}$	42.48	63.73	56.64	84.97	70.81	106.21	84.97	127.45
	Line-Line Resistance	Ohms	8.88	11.55	7.94	10.33	3.61	4.65	2.27	2.88
	Motor Constant (K_m)	$Nm/sqrt(W)$	0.1	0.13	0.14	0.19	0.26	0.35	0.4	0.53
		$oz-in/sqrt(W)$	14.25	18.75	20.1	26.43	37.26	49.25	56.39	75.1
	Magnetic Pole Count	#	16	16	16	16	20	20	20	20
Theoretical Stall Torque (28V Supply)	oz-in	134	154	200	230	549	640	1048	1239	
Theoretical No-Load Speed (28V Supply)	RPM	1092	728	819	546	655	437	546	364	
Motor Geometry	Stator Outer Diameter	in	2.5	2.5	3	3	4	4	5	5
	Rotor Inner Diameter	in	1.548	1.548	1.858	1.858	2.477	2.477	3.096	3.096
	Rotor to Stator Radial Air Gap	in	0.011	0.011	0.013	0.013	0.01	0.01	0.012	0.012
	Axial Length	in	1	1.5	1	1.5	1	1.5	1	1.5
Torque and Thermal Performance	Maximum Continuous Current (36°C Boundary)	A	1.6	1.6	1.8	1.8	2.7	2.4	3.8	3.6
	Maximum Continuous Torque (36°C Boundary)	oz-in	67.97	101.96	101.96	152.94	191.18	254.9	322.87	458.82
	Maximum Allowable Stator Temperature	°C	130	130	130	130	130	130	130	130

* All motor performance parameters are approximate. Contact Honeybee Robotics technical experts for additional information.