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### > A.C. Gearmotors

Size	Voltage	Rated Torque N • m	Rated Speed rpm	Page
60	115V	0.1-1	1200/1450	14-3

### > D.C. Gearmotors - Motor Specifications

Size	Voltage	Rated Torque N • mm	Rated Speed rpm	Page
12	3V	0.098	11600	14-4
12	3V	0.1	12000	14-5
12	4.5V	0.294	7350	14-6
12	12V	0.16	10500	14-7
12	12V	0.245	12550	14-8
12	12V	0.25	13050	14-9
16	6V	0.49	4750	14-10
16	6V	0.59	9090	14-11
16	6V	0.59	9097	14-12
16	6V	1.96	6891	14-13
16	6V	1.96	7021	14-14, 14-15
16	12V	0.49	6556	14-16
16	12V	0.49	6571	14-17
16	12V	1.96	7082	14-18
16	12V	1.96	7261	14-19
20	12V	0.59	3500	14-20, 14-21
22	12V	2.94	4700	14-22, 14-23
22	12V	2.94	4750	14-24
22	12V	2.94	5150	14-25
22	24V	3.92	10300	14-26
22	24V	3.92	10400	14-27
27	12V	2.94	5150	14-28, 14-29
37	12V	2.45	7200	14-30
37	12V	4.9	5200	14-31
37	24V	1.96	4600	14-32
37	24V	4.9	4200	14-33
37	24V	4.9	4500	14-34
37	24V	4.9	6550	14-35
37	24V	5.1	3600	14-36
42	6V	0.98	1250	14-37
42	12V	0.98	1200	14-38
42	12V	14.7	2560	14-39
42	12V	29.4	4300	14-40
42	24V	0.98	2500	14-41
42	24V	19.6	3400	14-42
43	12V	9.81	3750	14-43
43	12V	14.72	2560	14-44
43	24V	9.81	3590	14-45
43	24V	14.72	2560	14-46
48	12V	14.7	2560	14-47
48	12V	29.4	3800	14-48
48	24V	4.9	4600	14-49
48	24V	14.7	2560	14-50
48	24V	14.7	3500	14-51
60	12V	9.81	3750	14-52, 14-53
60	12V	14.72	2560	14-54, 14-55
60	12V	29.43	3800	14-56

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### > D.C. Gearmotors - Motor Specifications (Continued)

Size	Voltage	Rated Torque N • mm	Rated Speed rpm	Page
60	24V	9.81	3590	14-57, 14-58
60	24V	14.72	2560	14-59
60	24V	14.72	3500	14-60

### > Single Phase A.C. Motors

Size	Voltage	Rated Torque N • mm	Rated Speed rpm	Page
60	115V	—	1200-1800	14-61

### > D.C. Motors

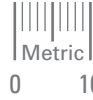
Size	Voltage	Rated Torque N • mm	Rated Speed rpm	Page
40	6V	0.98	1250	14-62
40	12V	0.98	1200	14-62

### > Hybrid Stepper Motors

Nema Size	Max. Drive Voltage	Min. Holding Torque ozf. in.	Step Angle	Page
11	24V DC	7-15	1.8°	14-66
14	80V DC	8-26	1.8°	14-68
17	80V DC	17 - 62.8	.9 ~ 1.8°	14-70
23	80V DC	54.2 - 264	1.8°	14-72
23	160V DC	69 - 212	1.8°	14-74
34	160V DC	850 - 1845	1.8°	14-76
34	160V DC	150 - 636	1.8°	14-78
42	160V DC	1125 - 1591	1.8°	14-80

### > Stepper Motors & Modules

Nema Size	Drive Voltage	Holding Torque N • cm	Step Angle	Page
23	60V DC	40, 88, 106	1.8°	14-82
34	60V DC	123, 350	1.8°	14-83
Metric	60V DC	58, 123	1.8°	14-84
Metric	60V DC	41-216	1.8°	14-85



**INERTIA CONVERSION TABLE**

A \ B	lb <sub>m</sub> • ft <sup>2</sup>	lbf • ft • s <sup>2</sup> or slug-ft <sup>2</sup>	lb <sub>m</sub> • in <sup>2</sup>	lbf • in • s <sup>2</sup>	oz <sub>m</sub> • in <sup>2</sup>	ozf • in • s <sup>2</sup>	kg • cm <sup>2</sup>	kgf • cm • s <sup>2</sup>	g • cm <sup>2</sup>	gf • cm • s <sup>2</sup>
lb <sub>m</sub> • ft <sup>2</sup>	1	3.108 x 10 <sup>-2</sup>	144	.373	2.304 x 10 <sup>3</sup>	5.968	421.40	0.4297	4.214 x 10 <sup>5</sup>	429.71
lbf • ft • s <sup>2</sup>	32.174	1	4.633 x 10 <sup>3</sup>	12	7.413 x 10 <sup>4</sup>	192	1.356 x 10 <sup>4</sup>	13.825	1.356 x 10 <sup>7</sup>	1.383 x 10 <sup>4</sup>
lb <sub>m</sub> • in <sup>2</sup>	6.944 x 10 <sup>-3</sup>	2.158 x 10 <sup>-4</sup>	1	2.590 x 10 <sup>-3</sup>	16	4.144 x 10 <sup>-2</sup>	2.926	2.984 x 10 <sup>-3</sup>	2.926 x 10 <sup>3</sup>	2.984
lbf • in • s <sup>2</sup>	2.681	8.333 x 10 <sup>-2</sup>	386.1	1	6.177 x 10 <sup>3</sup>	16	1.130 x 10 <sup>3</sup>	1.152	1.130 x 10 <sup>6</sup>	1.152 x 10 <sup>3</sup>
oz <sub>m</sub> • in <sup>2</sup>	4.34 x 10 <sup>-4</sup>	1.349 x 10 <sup>-5</sup>	6.25 x 10 <sup>-2</sup>	1.619 x 10 <sup>-4</sup>	1	2.59 x 10 <sup>-3</sup>	0.183	1.865 x 10 <sup>-4</sup>	182.901	0.186
ozf • in • s <sup>2</sup>	0.168	5.208 x 10 <sup>-3</sup>	24.13	6.25 x 10 <sup>-2</sup>	386.088	1	70.616	7.201 x 10 <sup>-2</sup>	7.0616 x 10 <sup>4</sup>	72.008
kg • cm <sup>2</sup>	2.373 x 10 <sup>-3</sup>	7.376 x 10 <sup>-5</sup>	0.3417	8.851 x 10 <sup>-4</sup>	5.467	1.416 x 10 <sup>-2</sup>	1	1.0197 x 10 <sup>-3</sup>	1000	1.0197
kgf • cm • s <sup>2</sup>	2.327	7.233 x 10 <sup>-2</sup>	335.109	0.8679	5.362 x 10 <sup>3</sup>	13.887	980.665	1	9.807 x 10 <sup>5</sup>	1000
g • cm <sup>2</sup>	2.373 x 10 <sup>-6</sup>	7.376 x 10 <sup>-8</sup>	3.417 x 10 <sup>-4</sup>	8.851 x 10 <sup>-7</sup>	5.467 x 10 <sup>-3</sup>	1.416 x 10 <sup>-5</sup>	10 <sup>-3</sup>	1.0197 x 10 <sup>-6</sup>	1	1.0197 x 10 <sup>-3</sup>
gf • cm • s <sup>2</sup>	2.327 x 10 <sup>-3</sup>	7.233 x 10 <sup>-5</sup>	0.3351	8.680 x 10 <sup>-4</sup>	5.362	1.389 x 10 <sup>-2</sup>	.9807	10 <sup>-3</sup>	980.667	1

**NOTE:** To convert from A to B multiply by entry in table.

**Example:** Convert a rotor inertia of 90 g • cm<sup>2</sup> to ozf • in • sec<sup>2</sup>  
 The multiplier from the table above is 1.416 x 10<sup>-3</sup>  
 The new inertia = 90 x 1.416 x 10<sup>-3</sup> = 1.27 x 10<sup>3</sup> ozf • in • sec<sup>2</sup>