

## Performance Data – Open/Close and Modulating Configurations

### Available Torques, Operating Speeds, Motor Duty Cycles, Motor Voltages and Locked Rotor Amp Draws

Torque Expression: Inch-Pounds (in-lb) and Newton Meters (Nm).

Speed Expression: Seconds per 90° output rotation.

Torque Output		Operating Speed	Model	Motor Duty Cycle	Locked Rotor Amp Draw					
					1 Phase /50 - 60 Hz		3Ph/60Hz		Direct Current	
in-lb	Nm	Sec/90°			115VAC	230VAC	230VAC	460VAC	12VDC	24VDC
100	11	2.5	EM-050	30%	.51	N/A	—	—	—	—
100	11	2 <i>Note 4</i>	EM-100	30%	1.30	CF	—	—	—	—
250	28	10		30%	0.70	CF	—	—	—	—
350	39	13		30%	0.70	CF	—	—	—	—
150	17	4 <i>Note 4</i>	EM-300	30%	0.6	0.3	—	—	1.25	2.5
300	34	10		30%	0.6	0.3	—	—	1.25	2.5
400	45	15		30%	0.6	0.3	—	—	1.25	2.5
600	68	30		30%	0.6	0.3	—	—	1.25	2.5
180	20	5 <i>Note 4</i>	EM-520	30%	0.6	0.3	—	—	1.25	2.5
450	51	10		30%	0.6	0.3	—	—	1.25	2.5
600	68	15		30%	0.6	0.3	—	—	1.25	2.5
1,000	113	30		30%	0.6	0.3	—	—	1.25	2.5
350	39	5 <i>Note 4</i>	EM-500	100%	0.7	0.4	—	—	2.5	5.0
700	79	10		100%	0.7	0.4	—	—	2.5	5.0
1,000	113	15		100%	0.7	0.4	—	—	2.5	5.0
1,600	181	30		100%	0.4	0.5	—	—	2.5	5.0
325	36	2 <i>Note 4</i>	EM-510	100%	1.6	0.8	—	—	4.3	8.5
600	68	5 <i>Note 4</i>		100%	1.6	0.8	—	—	4.3	8.5
1,000	113	7 <i>Note 4</i>		100%	1.6	0.8	—	—	4.3	8.5
2,000	226	12	EM-810	100%	3.2	1.3	CF	CF	—	—
2,500	282	18		100%	3.2	1.3	CF	CF	—	—
3,500	395	30		100%	3.2	1.3	CF	CF	—	—
4,000	452	60		100%	3.2	1.3	CF	CF	—	—
3,000	339	12	EM-820	100%	3.2	1.3	CF	CF	—	—
4,000	452	18		100%	3.2	1.3	CF	CF	—	—
6,000	678	30		100%	3.2	1.3	CF	CF	—	—
7,000	791	60		100%	3.2	1.3	CF	CF	—	—
5,000	565	12	EM-830	100%	6.0	2.8	CF	CF	—	—
7,000	791	18		100%	6.0	2.8	CF	CF	—	—
10,000	1,130	30		100%	6.0	2.8	CF	CF	—	—
10,000	1,130	60		100%	6.0	2.8	CF	CF	—	—
15,000	1,695	48	EM-840	100%	6.0	2.8	CF	CF	—	—
20,000	2,260	72		100%	6.0	2.8	CF	CF	—	—
300	34	10 <i>Note 4</i>	EM-SR5	100%	0.7	0.4	—	—	—	—
400	45	15		100%	0.7	0.4	—	—	—	—
600	68	30		100%	0.4	0.5	—	—	—	—
1,600	181	90		100%	0.4	0.5	—	—	—	—

Notes: 1. Operating speed is nominal at rated torques. Final operating speed may vary depending on actual service.

2. Actuators with 12VDC motors will have an operating speed of approximately 40% longer (slower) than that shown.

3. CF – Consult Factory

4. Bettis does not recommend the use of any actuator for any modulating application with an operating speed of 10 seconds or less.