

FM MOTOR—230V & 460V Performance AC Brushless Servo Motor

The FM motor is a high performance brushless AC servo motor range matched for use with Control Techniques drives. FM is an acronym for Flexible Motor, designed to accommodate a wide range of applications. The motors are available in six frame sizes with various mounting arrangements and motor lengths.

Key Features and Options:

- Wide torque range 6.6 to 647 lb-in (0.75 to 73.2 Nm)
- 4096 ppr encoder standard
- Various Sizes and lengths: 055, 075, 095, 115, 142 and 190 mm
- Different shaft diameter options
- Various front flange mounting arrangements
- 90 degree connectors (rotatable)
- Brake options
- Sealing to IP65

Benefits:

- Unimotor FM allows various feedback devices to be used, as standard an incremental encoder is fitted as this offers an optimum balance of cost and performance.
- Sin/Cos feedback can be selected for increased resolution and absolute feedback. Resolver feedback is available for increased reliability in extreme environments. New low cost inductive option.
- High peak torque values allow smaller motors to be used where the RMS value is low but the maximum torque is high.
- A wide selection of ready made flex rated cables are available for quick and easy connection to Control Techniques drives.
- High inertia versions are available to allow the motor inertia to be more closely matched to the load inertia for increased control and stability.
- Motor brakes may be integrated within the motor, a choice of parking brake or high energy dissipation brake is available.
- Flexibility of the FM range always ensure the best fit for your application, as well as the various physical sizes and feedback devices available, options extend to the type of connectors fitted.
- This configuration is designed with low cogging torque to provide smooth operation and excellent velocity regulation.

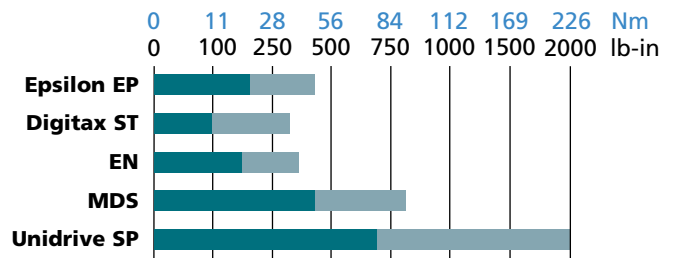
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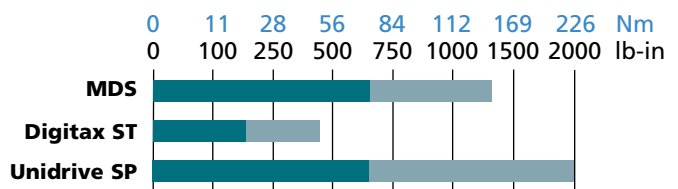


Continuous Torque
Peak Torque

FM MOTOR—230V



FM MOTOR—460V



Unimotor FM is suitable for applications where precision motion and/or dynamic control is required. Typical applications include:

- High speed machinery
- Flying shear and rotary knife applications
- Pick and place
- Materials handling
- Printing
- Textile machinery

Standard - 230V FM Motor Specifications (Typically Stocked with standard options)

Motor Model	Rated Torque lb-in Nm	Cont. Stall Current Arms	Peak Current Arms	Motor Resistance Ohms	Motor Inductance mH	Max Operating Speed RPM	Inertia lb-in-sec ² kg-cm ²	Motor Ke Vrms/krpm	Motor Kt lb-in/Arms Nm/Arms	Motor Weight lb kg
055E2C30	18.7 2.1	2.5	7.4	9.60	30.90	3000	0.000301 0.34	52.5	7.61 0.86	4.0 1.8
055E2C60	18.7 2.1	4.8	14.4	2.50	8.10	6000	0.000301 0.34	26.8	3.89 0.44	4.0 1.8
075E2A40	10.6 1.2	1.7	5.0	10.20	24.60	4000	0.000620 0.70	44.0	6.37 0.72	7.9 3.6
075E2B30	19.5 2.2	2.4	7.1	6.26	18.40	3000	0.001062 1.20	57.0	8.23 0.93	9.7 4.4
075E2B40	19.5 2.2	3.1	9.2	3.39	10.80	4000	0.001062 1.20	44.0	6.37 0.72	9.7 4.4
075E2C40	27.4 3.1	4.3	12.9	1.92	7.14	4000	0.001416 1.60	44.0	6.37 0.72	11.4 5.2
075E2D30	34.5 3.9	4.2	12.6	2.38	8.82	3000	0.001770 2.00	57.0	8.23 0.93	13.2 6.0
095E2B30	38.1 4.3	4.6	13.9	2.68	12.00	3000	0.002567 2.90	57.0	8.23 0.93	13.9 6.3
095E2B40	38.1 4.3	6.0	17.9	1.64	6.77	4000	0.002567 2.90	44.0	6.37 0.72	13.9 6.3
095E2D30	66.4 7.5	8.1	24.2	1.03	5.60	3000	0.004514 5.10	57.0	8.23 0.93	19.1 8.7
095E2D40	66.4 7.5	10.4	31.3	0.62	3.46	4000	0.004514 5.10	44.0	6.37 0.72	19.1 8.7
095E2E30	79.6 9.0	9.7	29.0	0.77	4.65	3000	0.005487 6.20	57.0	8.23 0.93	21.8 9.9
115E2B30	58.4 6.6	7.1	21.3	1.30	9.16	3000	0.005930 6.70	57.0	8.23 0.93	21.3 9.7
115E2C30	83.2 9.4	10.1	30.3	0.73	6.07	3000	0.007965 9.00	57.0	8.23 0.93	25.5 11.6
115E2D30	109.7 12.4	13.3	40.0	0.47	4.26	3000	0.010089 11.40	57.0	8.23 0.93	29.7 13.5
115E2E30	135.4 15.3	16.5	49.4	0.37	3.49	3000	0.012213 13.80	57.0	8.23 0.93	33.9 15.4
142E2B30	95.6 10.8	11.6	34.8	0.59	6.85	3000	0.013806 15.60	57.0	8.23 0.93	29.3 13.3

Standard - 460V FM Motor Specifications (Typically Stocked with standard options)

Motor Model	Rated Torque lb-in Nm	Cont. Stall Current Arms	Peak Current Arms	Motor Resistance Ohms	Motor Inductance mH	Max Operating Speed RPM	Inertia lb-in-sec ² kg-cm ²	Motor Ke Vrms/krpm	Motor Kt lb-in/Arms Nm/Arms	Motor Weight lb kg
055U2C30	18.7 2.1	1.3	4.0	32.00	103.00	3000	0.000301 0.34	95.7	13.98 1.58	4.0 1.8
055U2C60	18.7 2.1	2.7	8.0	8.00	25.70	6000	0.000301 0.34	47.9	6.99 0.79	4.0 1.8
075U2B30	19.5 2.2	1.4	4.1	20.10	41.80	3000	0.001062 1.20	98.0	14.16 1.60	9.7 4.4
075U2B40	19.5 2.2	1.8	5.5	10.50	24.80	4000	0.001062 1.20	73.5	10.62 1.20	9.7 4.4
075U2D30	34.5 3.9	2.4	7.3	7.50	19.70	3000	0.001770 2.00	98.0	14.16 1.60	13.2 6.0
095U2B30	38.1 4.3	2.7	8.1	6.80	24.30	3000	0.002567 2.90	98.0	14.16 1.60	13.9 6.3
095U2B40	38.1 4.3	3.6	10.8	4.08	13.60	4000	0.002567 2.90	73.5	10.62 1.20	13.9 6.3
095U2D30	66.4 7.5	4.7	14.1	2.50	10.90	3000	0.004514 5.10	98.0	14.16 1.60	19.1 8.7
095U2E40	79.6 9.0	7.5	22.5	1.03	4.80	4000	0.005487 6.20	73.5	10.62 1.20	21.8 9.9
115U2B30	58.4 6.6	4.1	12.4	3.86	18.60	3000	0.005930 6.70	98.0	14.16 1.60	21.3 9.7
115U2D30	109.7 12.4	7.8	23.3	1.40	8.60	3000	0.010089 11.40	98.0	14.16 1.60	29.7 13.5
115U2E30	135.4 15.3	9.6	28.7	1.10	7.40	3000	0.012213 13.80	98.0	14.16 1.60	33.9 15.4
142U2B30	95.6 10.8	6.8	20.3	1.72	13.30	3000	0.013806 15.60	98.0	14.16 1.60	29.3 13.3
142U2C30	135.4 15.3	9.6	28.7	0.94	8.30	3000	0.019647 22.20	98.0	14.16 1.60	35.4 16.1
142U2D30	175.2 19.8	12.4	37.1	0.61	6.10	3000	0.025488 28.80	98.0	14.16 1.60	41.6 18.9
142U2E30	207.1 23.4	14.6	43.9	0.44	4.80	3000	0.031329 35.40	98.0	14.16 1.60	47.7 21.7
190U2D30	363.7 41.1	25.7	77.1	0.30	6.11	300	0.076464 86.40	98.0	14.16 1.60	74.6 33.9

230V FM Motor Specifications

Servomotors

Motor Frame Size (mm)	055E2			075E2				095E2				
	A	B	C	A	B	C	D	A	B	C	D	E
Continuous Stall Torque (lb-in)	6.4	12.4	18.7	10.6	19.5	27.4	34.5	20.4	38.1	52.2	66.4	79.6
Continuous Stall Torque (Nm)	0.72	1.40	2.11	1.2	2.2	3.1	3.9	2.3	4.3	5.9	7.5	9.0
Standard (2) Peak Torque selection max (lb-in)	24.3	48.7	73.0	31.9	58.4	82.3	103.5	61.1	114.2	156.6	199.1	238.9
Standard (2) Peak Torque selection max (Nm)	2.75	5.50	8.25	3.6	6.6	9.3	11.7	6.9	12.9	17.7	22.5	27.0
High (P) Peak Torque selection max (lb-in)	N/A	N/A	N/A	53.1	97.3	137.2	172.6	92.0	171.7	235.4	299.1	358.4
High (P) Peak Torque selection max (Nm)				6	11	15.5	19.5	10.4	19.4	26.6	33.8	40.5
Standard Inertia (lb-in-sec ²)	0.00011	0.00020	0.00030	0.00062	0.00106	0.00142	0.00177	0.00159	0.00257	0.00354	0.00451	0.00549
Standard Inertia (kgcm ²)	0.12	0.23	0.34	0.7	1.2	1.6	2.0	1.8	2.9	4.0	5.1	6.2
High Inertia (lb-in-sec ²)	N/A	N/A	N/A	0.00097	0.00133	0.00177	0.00212	0.00327	0.00425	0.00522	0.00620	0.00717
High Inertia (kgcm ²)				1.1	1.5	2.0	2.4	3.7	4.8	5.9	7.0	8.1
Winding Thermal Time Const. (sec)	N/A	N/A	N/A	81	74	94	100	172	168	183	221	228
Maximum Cogging (lb-in)	0.27	0.44	0.62	0.18	0.27	0.35	0.44	0.27	0.53	0.71	0.89	1.15
Maximum Cogging (Nm)	0.03	0.05	0.07	0.02	0.03	0.04	0.05	0.03	0.06	0.08	0.10	0.13
Standard motor weight unbraked (lbs)	2.64	3.30	3.96	7.92	9.68	11.44	13.20	11.22	13.86	16.50	19.14	21.78
Standard motor weight unbraked (kg)	1.20	1.50	1.80	3.60	4.40	5.20	6.00	5.10	6.30	7.50	8.70	9.90
Standard motor weight braked (lbs)	3.52	4.18	4.84	9.02	10.78	12.54	14.30	12.54	15.18	19.14	20.46	23.10
Standard motor weight braked (kg)	1.60	1.90	2.20	4.10	4.90	5.70	6.50	5.70	6.90	8.70	9.30	10.50
Rated Speed 2000 (rpm)	Kt (lb-in/A, Nm/A) = Ke (V/krpm) =			Kt (Lb-In/A, Nm/A) = 6.55, 1.4 Ke (V/krpm) = 85.5								
Rated Torque (lb-in)	C/F	C/F	C/F	9.7	18.6	26.5	33.6	19.5	35.4	48.7	61.1	72.6
Rated Torque (Nm)				1.1	2.1	3.0	3.8	2.2	4.0	5.5	6.9	8.2
Stall Current (A)				0.9	1.6	2.3	2.8	1.7	3.1	4.3	5.4	6.5
Rated Power (kW)				0.23	0.44	0.63	0.80	0.46	0.84	1.15	1.45	1.72
R (ph-ph) (Ohms)				45.8	15.3	8.5	5.72	19.4	6.2	3.16	2.31	1.71
L (ph-ph) (mH)				98.8	43.4	27.9	20.2	59.2	25.8	16.0	12.6	10.1
Rated Speed 3000 (rpm)	Kt (lb-in/A, Nm/A) = Ke (V/krpm) =			Kt (Lb-In/A, Nm/A) = 8.23, 0.93 Ke (V/krpm) = 57								
Rated Torque (lb-in)	5.3	10.6	15.9	9.7	17.7	24.8	31.0	17.7	34.5	47.8	60.2	71.7
Rated Torque (Nm)	0.60	1.20	1.80	1.1	2.0	2.8	3.5	2.0	3.9	5.4	6.8	8.1
Stall Current (A)	0.98	1.68	2.46	1.3	2.4	3.4	4.2	2.5	4.7	6.4	8.1	9.7
Rated Power (kW)	0.21	0.43	0.64	0.35	0.63	0.88	1.10	0.63	1.23	1.70	2.14	2.54
R (ph-ph) (Ohms)	30.0	14.7	9.6	18.9	6.26	3.50	2.38	8.03	2.68	1.57	1.03	0.77
L (ph-ph) (mH)	67.3	43.0	30.9	42.5	18.4	11.9	8.82	25.6	12.0	7.91	5.60	4.65
Rated Speed 4000 (rpm)	Kt (lb-in/A, Nm/A) = Ke (V/krpm) =			Kt (Lb-In/A, Nm/A) = 6.73, 0.72 Ke (V/krpm) = 44								
Rated Torque (lb-in)	C/F	C/F	C/F	8.9	15.0	20.4	25.7	15.9	26.5	35.4	43.4	50.4
Rated Torque (Nm)				1.0	1.7	2.3	2.9	1.8	3.0	4.0	4.9	5.7
Stall Current (A)				1.7	3.1	4.4	5.5	3.2	6.0	8.2	10.5	12.5
Rated Power (kW)				0.42	0.71	0.96	1.21	0.75	1.26	1.68	2.05	2.39
R (ph-ph) (Ohms)				10.2	3.39	1.92	1.48	5.15	1.64	0.92	0.62	0.43
L (ph-ph) (mH)				24.6	10.8	7.14	5.42	15.5	6.77	4.61	3.46	2.54
Rated Speed 6000 (rpm)	Kt (lb-in/A, Nm/A) = Ke (V/krpm) =			Kt (Lb-In/A, Nm/A) = 4.16, 0.47 Ke (V/krpm) = 28.5								
Rated Torque (lb-in)	4.2	8.1	11.9	8.0	14.2	18.6	23.0	11.5	18.6	24.8	C/F	C/F
Rated Torque (Nm)	0.48	0.91	1.35	0.9	1.6	2.1	2.6	1.3	2.1	2.8		
Stall Current (A)	1.66	3.33	4.80	2.6	4.7	6.6	8.3	4.9	9.2	12.6		
Rated Power (kW)	0.33	0.63	0.99	0.57	1.01	1.32	1.63	0.82	1.32	1.76		
R (ph-ph) (Ohms)	9.6	3.8	2.5	4.5	1.49	0.95	0.65	2.01	0.67	0.35		
L (ph-ph) (mH)	21.5	11.1	8.1	10.7	4.73	3.10	2.33	6.41	3.01	1.77		

C/F= Consult Factory
N/A= Not Available

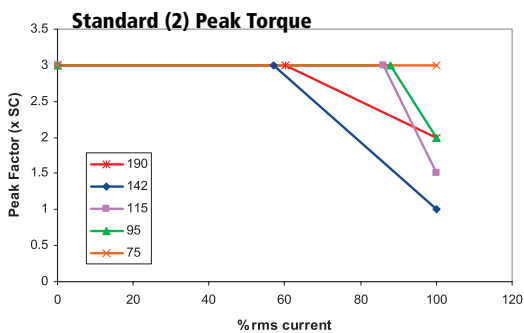
Δt = 100° C winding 40° C maximum ambient
All data subject to ±10% tolerance

230V & 460V FM Motor Holding Brake Specifications

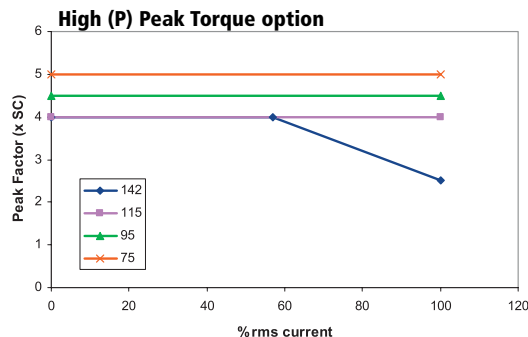
Motor Frame Size mm	Power Supply DC	Current (A)	Static Torque		Mechanical Engagement Time ms	Added Inertia		Added weight kg
			lb-in	Nm		lb-in-sec ²	kg-cm ²	
55	24	0.27	15.9	1.8	24	0.00003	0.03	0.4
75	24	0.27	17.7	2	24	0.00006	0.07	0.5
95	24	0.67	97.3	11	20	0.00035	0.39	0.6
115	24	0.67	97.3	11	10	0.00039	0.44	1.2
142	24	0.81	159.3	18	30	0.00048	0.54	1.7
190(A-D)	24	1.05	336.3	38	15	0.00272	3.07	2
190(E-H)	24	1.05	531.0	60	15	0.00438	4.95	2

	115E2					142E2						190E2							
	A	B	C	D	E	A	B	C	D	E	F	A	B	C	D	E	F	G	H
	31.0	58.4	83.2	109.7	135.4	50.4	95.6	135.4	175.2	207.1	C/F	C/F	192.9	C/F	363.7	C/F	519.5	C/F	647.8
	3.5	6.6	9.4	12.4	15.3	5.7	10.8	15.3	19.8	23.4			21.8		41.1		58.7		73.2
	92.9	175.2	249.6	329.2	406.2	151.3	286.7	406.2	525.7	621.3			578.8		1088.6		1557.6		1938.1
	10.5	19.8	28.2	37.2	45.9	17.1	32.4	45.9	59.4	70.2			65.4		123.0		176.0		219.0
	123.9	233.6	332.8	439.0	541.6	201.8	382.3	541.6	700.9	828.4			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	14	26.4	37.6	49.6	61.2	22.8	43.2	61.2	79.2	93.6									
	0.00389	0.00593	0.00797	0.01009	0.01221	0.00797	0.01381	0.01965	0.02549	0.03133			0.04310		0.07646		0.10894		0.14319
	4.4	6.7	9.0	11.4	13.8	9.0	15.6	22.2	28.8	35.4			48.7		86.4		123.1		161.8
	0.00841	0.01044	0.01248	0.01469	0.01673	0.02062	0.02646	0.03230	0.03814	0.04398			0.08310		0.11647		0.14895		0.18320
	9.5	11.8	14.1	16.6	18.9	23.3	29.9	36.5	43.1	49.7			93.9		131.6		168.3		207.0
	175	185	198	217	241	213	217	275	301	365			240		242		319		632
	0.53	0.89	1.24	1.59	1.86	0.80	1.42	2.04	2.66	3.10			2.66		4.78		6.37		8.76
	0.06	0.10	0.14	0.18	0.21	0.09	0.16	0.23	0.30	0.35			0.30		0.54		0.72		0.99
	17.16	21.34	25.52	29.70	33.88	22.00	29.26	35.42	41.58	47.74			55.66		74.58		93.50		112.86
	7.80	9.70	11.60	13.50	15.40	10.00	13.30	16.10	18.90	21.70			25.30		33.90		42.50		51.30
	19.80	23.98	28.16	32.34	37.84	26.84	33.00	39.16	43.12	51.48			60.06		78.98		97.90		116.82
	9.00	10.90	12.80	14.70	17.20	12.20	15.00	17.80	19.60	23.40			27.30		35.90		44.50		53.10
	28.3	54.0	77.0	95.6	123.9	46.9	91.2	129.2	162.8	188.5	C/F	C/F	177.0	C/F	326.6	C/F	446.0	C/F	C/F
	3.2	6.1	8.7	10.8	14.0	5.3	10.3	14.6	18.4	21.3			20.0		36.9		50.4		
	2.5	4.8	6.8	8.9	11.0	4.1	7.8	11.0	14.2	16.8			15.6		29.4		42.0		
	0.67	1.28	1.82	2.26	2.93	1.11	2.16	3.06	3.85	4.46			4.19		7.73		10.6		
	9.09	2.82	1.51	0.99	0.82	4.28	1.33	0.75	0.45	0.32			0.50		0.15		0.10		
	47.3	20.6	13.1	9.54	7.86	33.7	15.1	10.3	6.96	5.58			7.98		3.32		2.73		
	26.5	48.7	71.7	92.0	111.5	43.4	79.6	108.0	139.8	N/A	N/A	C/F	169.9	C/F	292.1	C/F	C/F	C/F	
	3.0	5.5	8.1	10.4	12.6	4.9	9.0	12.2	15.8				19.2		33.0				
	3.8	7.1	10.2	13.4	16.5	6.2	11.7	16.5	21.3				23.5		44.2				
	0.94	1.73	2.54	3.27	3.96	1.54	2.83	3.83	4.96				6.03		10.4				
	4.01	1.30	0.73	0.47	0.37	1.90	0.59	0.31	0.20				0.25		0.08				
	20.1	9.16	6.07	4.26	3.49	15.0	6.85	4.20	1.94				3.98		1.87				
	22.1	41.6	55.8	66.4	C/F	31.9	61.9	C/F											
	2.5	4.7	6.3	7.5		3.6	7.0												
	4.9	9.2	13.1	17.3		8.0	15.0												
	1.05	1.97	2.64	3.14		1.51	2.93												
	2.62	0.82	0.44	0.29		1.20	0.36												
	12.6	5.48	3.57	2.53		9.45	4.08												
	19.5	35.4	C/F	N/A	N/A	25.7	C/F												
	2.2	4.0				2.9													
	7.5	14.1				12.2													
	1.38	2.51				1.82													
	0.96	0.30				0.49													
	4.80	2.09				3.96													

Peak Torque Derating



Peak Torque Derating



Peak Torque defined for a maximum period of 250 ms, RMS 3000 rpm, ΔTmax = 100°C, 40°C ambient SC = Stall Current

460V FM Motor Specifications

Servomotors

Motor Frame Size (mm) Frame Length	055U2			075U2				095U2				
	A	B	C	A	B	C	D	A	B	C	D	E
Continuous Stall Torque (Lb-In)	6.4	12.4	18.7	10.6	19.5	27.4	34.5	20.4	38.1	52.2	66.4	79.6
Continuous Stall Torque (Nm)	0.72	1.40	2.11	1.2	2.2	3.1	3.9	2.3	4.3	5.9	7.5	9.0
Standard (2) Peak Torque selection max (Lb-In)	24.3	48.7	73.0	31.9	58.4	82.3	103.5	61.1	114.2	156.6	199.1	238.9
Standard (2) Peak Torque selection max (Nm)	2.75	5.50	8.25	3.6	6.6	9.3	11.7	6.9	12.9	17.7	22.5	27.0
High (P) Peak Torque selection max (Lb-In)	N/A	N/A	N/A	53.1	97.3	137.2	172.6	92.0	171.7	235.4	299.1	358.4
High (P) Peak Torque selection max (Nm)				6	11	15.5	19.5	10.4	19.4	26.6	33.8	40.5
Standard Inertia (Lb-In-sec ²)	0.00011	0.00020	0.00030	0.00062	0.00106	0.00142	0.00177	0.00159	0.00257	0.00354	0.00451	0.00549
Standard Inertia (kgcm ²)	0.12	0.23	0.34	0.7	1.2	1.6	2.0	1.8	2.9	4.0	5.1	6.2
High Inertia (Lb-In-sec ²)	N/A	N/A	N/A	0.00097	0.00133	0.00177	0.00212	0.00327	0.00425	0.00522	0.00620	0.00717
High Inertia (kgcm ²)				1.1	1.5	2.0	2.4	3.7	4.8	5.9	7.0	8.1
Winding Thermal Time Const. (sec)	N/A	N/A	N/A	81	74	94	100	172	168	183	221	228
Maximum Cogging (Lb-In)	0.27	0.44	0.62	0.18	0.27	0.35	0.44	0.27	0.53	0.71	0.89	1.15
Maximum Cogging (Nm)	0.03	0.05	0.07	0.02	0.03	0.04	0.05	0.03	0.06	0.08	0.10	0.13
Standard motor weight unbraked (lbs)	2.64	3.30	3.96	7.92	9.68	11.44	13.20	11.22	13.86	16.50	19.14	21.78
Standard motor weight unbraked (kg)	1.20	1.50	1.80	3.60	4.40	5.20	6.00	5.10	6.30	7.50	8.70	9.90
Standard motor weight braked (lbs)	3.52	4.18	4.84	9.02	10.78	12.54	14.30	12.54	15.18	19.14	20.46	23.10
Standard motor weight braked (kg)	1.60	1.90	2.20	4.10	4.90	5.70	6.50	5.70	6.90	8.70	9.30	10.50
Rated Speed 2000 (rpm)	Kt (Lb-In/A, Nm/A) =			Kt (Lb-In/A, Nm/A) = 21, 2.4								
	Ke (V/krpm) =			Ke (V/krpm) = 147								
Rated Torque (Lb-In)	C/F	C/F	C/F	9.7	18.6	26.5	33.6	19.5	35.4	48.7	61.1	72.6
Rated Torque (Nm)				1.1	2.1	3.0	3.8	2.2	4.0	5.5	6.9	8.2
Stall Current (A)				0.5	1.0	1.3	1.7	1.0	1.8	2.5	3.2	3.8
Rated Power (kW)				0.23	0.44	0.63	0.80	0.46	0.84	1.15	1.45	1.72
R (ph-ph) (Ohms)				144	48.2	25.0	15.7	59.0	17.0	9.90	6.00	4.30
L (ph-ph) (mH)				214	99.2	59.2	44.7	131	54.5	36.5	25.6	18.9
Rated Speed 3000 (rpm)	Kt (Lb-In/A, Nm/A) =			Kt (Lb-In/A, Nm/A) = 14, 1.6								
	Ke (V/krpm) =			Ke (V/krpm) = 98.0								
Rated Torque (Lb-In)	5.3	10.6	15.9	9.7	17.7	24.8	31.0	17.7	34.5	47.8	60.2	71.7
Rated Torque (Nm)	0.60	1.20	1.80	1.1	2.0	2.8	3.5	2.0	3.9	5.4	6.8	8.1
Stall Current (A)	0.98	0.95	1.34	0.8	1.4	2.0	2.5	1.5	2.7	3.7	4.7	5.7
Rated Power (kW)	0.21	0.43	0.64	0.35	0.63	0.88	1.10	0.63	1.23	1.70	2.14	2.54
R (ph-ph) (Ohms)	30.0	46.0	32.0	60.8	20.1	10.5	7.5	24.5	6.80	4.00	2.50	2.00
L (ph-ph) (mH)	67.3	132.3	103.0	98.4	41.8	27.6	19.7	57.9	24.3	15.5	10.9	8.50
Rated Speed 4000 (rpm)	Kt (Lb-In/A, Nm/A) =			Kt (Lb-In/A, Nm/A) = 11, 1.2								
	Ke (V/krpm) =			Ke (V/krpm) = 73.5								
Rated Torque (Lb-In)	C/F	C/F	C/F	8.9	15.0	20.4	25.7	15.9	26.5	35.4	43.4	50.4
Rated Torque (Nm)	C/F	C/F	C/F	1.0	1.7	2.3	2.9	1.8	3.0	4.0	4.9	5.7
Stall Current (A)				1.0	1.9	2.6	3.3	2.0	3.6	5.0	6.3	7.5
Rated Power (kW)				0.42	0.71	0.96	1.21	0.75	1.26	1.68	2.05	2.39
R (ph-ph) (Ohms)				36.8	10.5	6.30	4.20	12.7	4.08	2.10	1.50	1.03
L (ph-ph) (mH)				54.9	24.8	14.9	10.8	31.5	13.6	8.50	6.30	4.80
Rated Speed 6000 (rpm)	Kt (Lb-In/A, Nm/A) =			Kt (Lb-In/A, Nm/A) = 7.1, 0.8								
	Ke (V/krpm) =			Ke (V/krpm) = 49.0								
Rated Torque (Lb-In)	4.2	8.1	11.9	8.0	14.2	18.6	23.0	11.5	18.6	24.8	C/F	C/F
Rated Torque (Nm)	0.48	0.91	1.35	0.9	1.6	2.1	2.6	1.3	2.1	2.8		
Stall Current (A)	0.98	1.91	2.68	1.5	2.8	3.9	4.9	2.9	5.4	7.4		
Rated Power (kW)	0.33	0.63	0.99	0.57	1.01	1.32	1.63	0.82	1.32	1.76		
R (ph-ph) (Ohms)	30.0	11.4	8.0	15.0	5.00	2.66	1.90	5.45	1.82	1.05		
L (ph-ph) (mH)	67.3	33.1	25.7	24.0	10.6	6.80	4.80	14.1	6.00	3.80		

C/F= Consult Factory
N/A= Not Available

Δt = 100° C winding 40° C maximum ambient
All data subject to ±10% tolerance

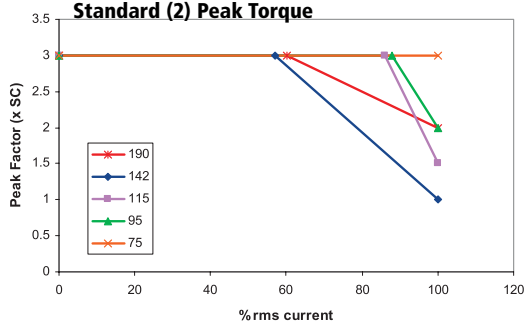
230V & 460V FM Motor Holding Brake Specifications

Motor Frame Size mm	Power Supply DC	Current (A)	Static Torque		Mechanical Engagement Time ms	Added Inertia		Added weight	
			lb-in	Nm		lb-in-sec ²	kg-cm ²	kg	
55	24	0.27	15.9	1.8	24	0.00003	0.03	0.4	
75	24	0.27	17.7	2	24	0.00006	0.07	0.5	
95	24	0.67	97.3	11	20	0.00035	0.39	0.6	
115	24	0.67	97.3	11	10	0.00039	0.44	1.2	
142	24	0.81	159.3	18	30	0.00048	0.54	1.7	
190(A-D)	24	1.05	336.3	38	15	0.00272	3.07	2	
190(E-H)	24	1.05	531.0	60	15	0.00438	4.95	2	

	115U2					142U2						190U2							
	A	B	C	D	E	A	B	C	D	E	F	A	B	C	D	E	F	G	H
	31.0	58.4	83.2	109.7	135.4	50.4	95.6	135.4	175.2	207.1	C/F	85.0	192.9	275.2	363.7	447.8	519.5	584.1	647.8
	3.5	6.6	9.4	12.4	15.3	5.7	10.8	15.3	19.8	23.4		9.6	21.8	31.1	41.1	50.6	58.7	66.0	73.2
	92.9	175.2	249.6	329.2	406.2	151.3	286.7	406.2	525.7	621.3		254.9	578.8	825.7	1088.6	1341.7	1557.6	1752.3	1938.1
	10.5	19.8	28.2	37.2	45.9	17.1	32.4	45.9	59.4	70.2		28.8	65.4	93.3	123	151.6	176	198.0	219
	123.9	233.6	332.8	439.0	541.6	201.8	382.3	541.6	700.9	828.4		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	14	26.4	37.6	49.6	61.2	22.8	43.2	61.2	79.2	93.6									
	0.00389	0.00593	0.00797	0.01009	0.01221	0.00797	0.01381	0.01965	0.02549	0.03133		0.02646	0.04310	0.05974	0.07646	0.09293	0.10894	0.12647	0.14319
	4.4	6.7	9.0	11.4	13.8	9.0	15.6	22.2	28.8	35.4		29.9	48.7	67.5	86.4	105.0	123.1	142.9	161.8
	0.00841	0.01044	0.01248	0.01469	0.01673	0.02062	0.02646	0.03230	0.03814	0.04398		0.06646	0.08310	0.09974	0.11647	0.13293	0.14895	0.16647	0.18320
	9.5	11.8	14.1	16.6	18.9	23.3	29.9	36.5	43.1	49.7		75.1	93.9	112.7	131.6	150.2	168.3	188.1	207
	175	185	198	217	241	213	217	275	301	365		217	240	241	242	281	319	476	632
	0.53	0.89	1.24	1.59	1.86	0.80	1.42	2.04	2.66	3.10		1.06	2.66	3.54	4.78	5.84	6.37	7.61	8.76
	0.06	0.10	0.14	0.18	0.21	0.09	0.16	0.23	0.30	0.35		0.12	0.30	0.40	0.54	0.66	0.72	0.86	0.99
	17.16	21.34	25.52	29.70	33.88	22.00	29.26	35.42	41.58	47.74		46.20	55.66	65.12	74.58	84.04	93.50	102.96	112.86
	7.80	9.70	11.60	13.50	15.40	10.00	13.30	16.10	18.90	21.70		21.00	25.30	29.60	33.90	38.20	42.50	46.80	51.30
	19.80	23.98	28.16	32.34	37.84	26.84	33.00	39.16	43.12	51.48		50.60	60.06	69.52	78.98	88.44	97.90	107.36	116.82
	9.00	10.90	12.80	14.70	17.20	12.20	15.00	17.80	19.60	23.40		23.00	27.30	31.60	35.90	40.20	44.50	48.80	53.10
	28.3	54.0	77.0	95.6	123.9	46.9	91.2	129.2	162.8	188.5	C/F	82.3	177.0	251.3	326.6	387.6	446.0	469.1	484.1
	3.2	6.1	8.7	10.8	14.0	5.3	10.3	14.6	18.4	21.3		9.3	20.0	28.4	36.9	43.8	50.4	53.0	54.7
	1.5	2.8	4.0	5.2	6.4	2.4	4.5	6.4	8.3	9.8		4.0	9.1	13.0	17.2	21.1	24.5	27.5	30.5
	0.67	1.28	1.82	2.26	2.93	1.11	2.16	3.06	3.85	4.46		1.90	4.19	5.90	7.73	9.20	10.6	11.1	11.5
	27.8	8.55	4.55	2.96	2.17	12.5	3.60	2.10	1.35	0.98		6.15	1.80	0.83	0.56	0.39	0.33	0.30	0.23
	94.6	40.5	25.7	18.6	14.7	58.0	29.8	18.7	13.6	10.7		52.90	28.10	15.00	13.0	8.68	8.90	6.73	6.30
	26.5	48.7	71.7	92.0	111.5	43.4	79.6	108.0	139.8	159.3	C/F	77.0	169.9	221.3	292.1	300.9	309.8	318.6	325.7
	3.0	5.5	8.1	10.4	12.6	4.9	9.0	12.2	15.8	18.0		8.7	19.2	25.0	33.0	34.0	35.0	36.0	36.8
	2.2	4.2	5.9	7.8	9.6	3.6	6.8	9.6	12.4	14.7		6.0	13.7	19.4	25.7	31.6	36.7	41.3	45.8
	0.94	1.73	2.54	3.27	3.96	1.54	2.83	3.83	4.96	5.65		2.73	6.03	7.85	10.4	10.7	11.0	11.3	11.6
	12.6	3.86	2.02	1.40	1.10	5.63	1.72	0.94	0.61	0.44		2.73	0.79	0.41	0.30	0.17	0.14	0.13	0.09
	43.1	18.6	11.4	8.60	7.40	31.0	13.3	8.30	6.10	4.80		23.50	13.20	7.35	6.11	3.86	3.60	2.99	2.46
	22.1	41.6	55.8	66.4	77.0	31.9	61.9	78.8	94.7	108.0		C/F	C/F	C/F	C/F				
	2.5	4.7	6.3	7.5	8.7	3.6	7.0	8.9	10.7	12.2									
	3.0	5.5	7.9	10.4	12.8	4.8	9.0	12.8	16.5	19.5									
	1.05	1.97	2.64	3.14	3.64	1.51	2.93	3.73	4.48	5.11									
	6.91	2.14	1.16	0.73	0.57	3.12	1.00	0.53	0.35	0.24									
	23.5	10.2	6.60	4.70	3.90	17.6	7.50	4.70	3.60	2.70									
	19.5	35.4	C/F	C/F	N/A	25.7	39.8	C/F	C/F										
	2.2	4.0				2.9	4.5												
	4.4	8.3				7.2	13.5												
	1.38	2.51				1.82	2.83												
	3.10	0.97				1.42	0.46												
	15.5	4.81				7.72	3.44												

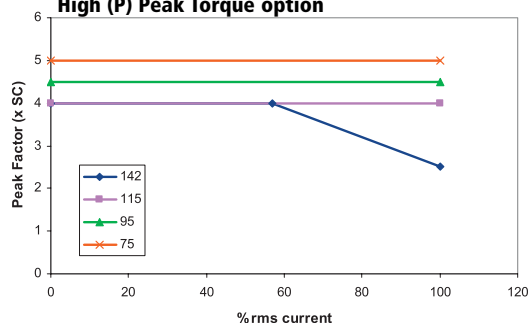
Peak Torque Derating

Standard (2) Peak Torque



Peak Torque Derating

High (P) Peak Torque option



Peak Torque defined for a maximum period of 250 ms, RMS 3000 rpm, ΔTmax = 100°C, 40°C ambient SC = Stall Current

FM Motor 230V and 460V Dimensions Table

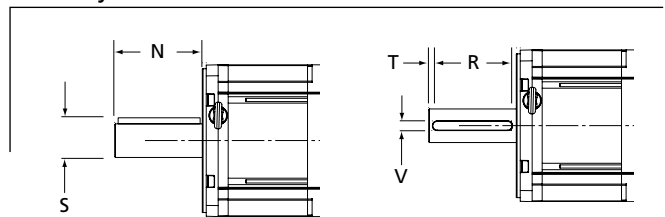
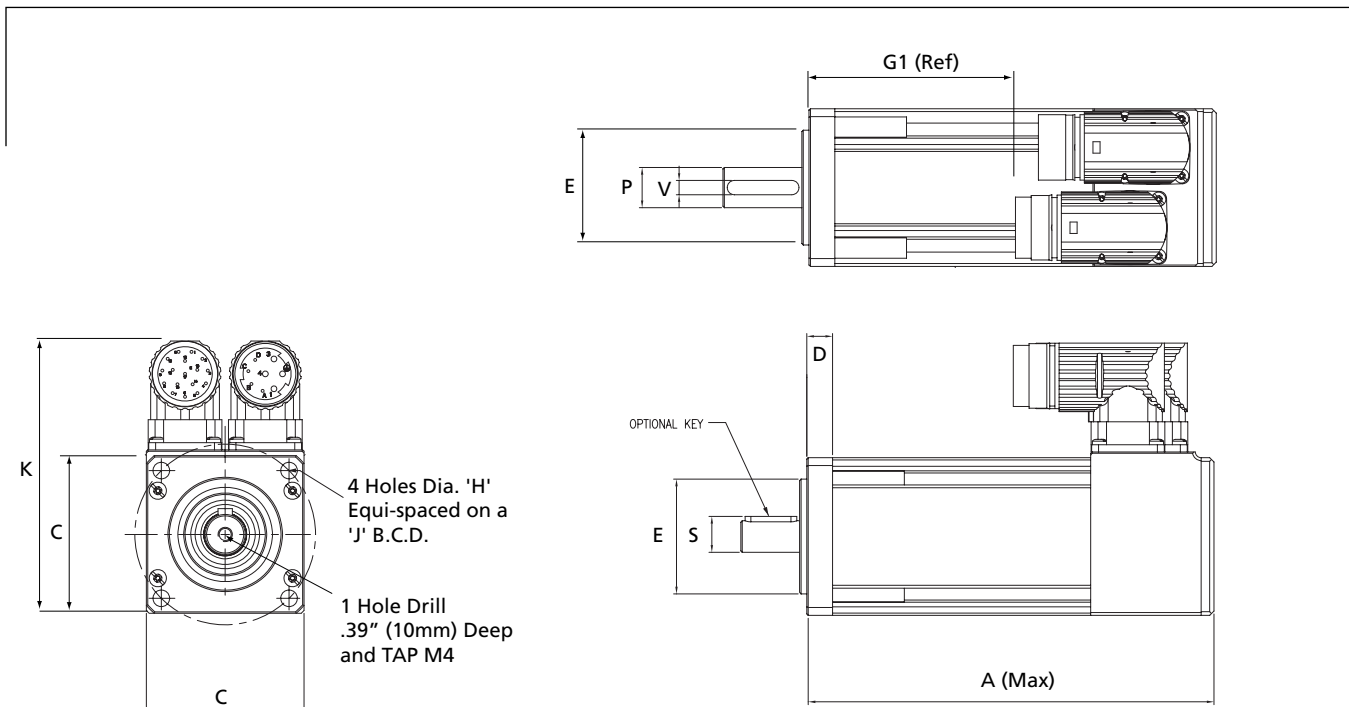
Frame Size Inches (mm)		55		75				95		
		Stator Length**		A	B	C	D	B	D	E
A	Length Overall (Unbraked)	4.65 (118)	6.54 (166)	8.23 (209)	9.41 (239)	10.59 (269)	11.78 (299)	10.15 (258)	12.51 (318)	13.69 (348)
A	Length Overall (Braked)	6.22 (158)	8.11 (206)	10.00 (254)	11.19 (284)	12.37 (314)	13.55 (344)	11.92 (303)	14.28 (363)	15.46 (393)
C	Flange Square	2.17 (55.0)		2.76 (70.0)				3.54 (90.0)		
C1	Motor Housing	2.17 (55.0)		2.95 (75.0)				3.74 (95.0)		
D	Flange Thickness	0.35 (9.0)		0.25 (6.3)				0.23 (5.95)		
E	Pilot Diameter (J6)	1.57 (40.0)		2.36 (60.0)				3.15 (8.0)		
F	Pilot Thickness	0.10 (2.5)		0.10 (2.5)				0.11 (2.9)		
G1	Front Flange to power C/L (Unbraked)	1.89 (48.0)	3.78 (96.0)	6.23 (158)	7.41 (188)	8.59 (218)	9.77 (248)	8.15 (207)	10.51 (267)	11.69 (297)
G1	Front Flange to power C/L (Braked)	3.46 (96.0)	5.35 (136.0)	8.00 (203)	9.18 (233)	10.36 (263)	11.54 (293)	9.92 (252)	12.28 (312)	13.46 (342)
H	Bolt Hole Diameter (H14)	0.23 (5.8)		0.24 (6.1)				0.28 (7.0)		
J	Bolt Circle Diameter (BCD)	2.48 (63.0)		2.95 (75.0)				3.94 (100.0)		
K	Overall Height	3.78 (96.0)		5.00 (127.0)				5.22 (133.0)		
N	Shaft Length (front)	0.91 (23)	0.91 (23)	0.91 (23)	1.18 (30)	1.18 (30)	1.18 (30)	1.57 (40)	1.57 (40)	1.57 (40)
P	Shaft Diameter (front)	0.43 (11)	0.43 (11)	0.43 (11)	0.55 (14)	0.55 (14)	0.55 (14)	0.75 (19)	0.75 (19)	0.75 (19)
Shaft key Dimensions										
R	Key Length (Min)	0.71 (18.0)	0.71 (18.0)	0.55 (14.0)	0.87 (22.0)	0.87 (22.0)	0.87 (22.0)	1.26 (32.0)	1.26 (32.0)	1.26 (32.0)
S	Key Height	0.49 (13.0)	0.49 (13.0)	0.49 (13.0)	0.63 (15.9)	0.63 (15.9)	0.63 (15.9)	0.84 (21.4)	0.84 (21.4)	0.84 (21.4)
T	Key to Shaft End	0.06 (1.5)	0.06 (1.5)	0.19 (5.0)	0.19 (4.8)	0.19 (4.8)	0.19 (4.8)	0.19 (4.8)	0.19 (4.8)	0.19 (4.8)
V	Key Width	0.16 (4.0)	0.16 (4.0)	0.16 (4.0)	0.20 (5.0)	0.20 (5.0)	0.20 (5.0)	0.24 (6.0)	0.24 (6.0)	0.24 (6.0)

**Motors listed here are catalog items. All other frame/lengths available. Go to Power CD or www.emersonct.com for complete listing of all motor options

FM 230V & 460V MOTOR DIMENSIONS

The dimensional information found on these pages is not to be used for design purposes. For complete engineering controlled drawings, please refer to the web site or Power CD.

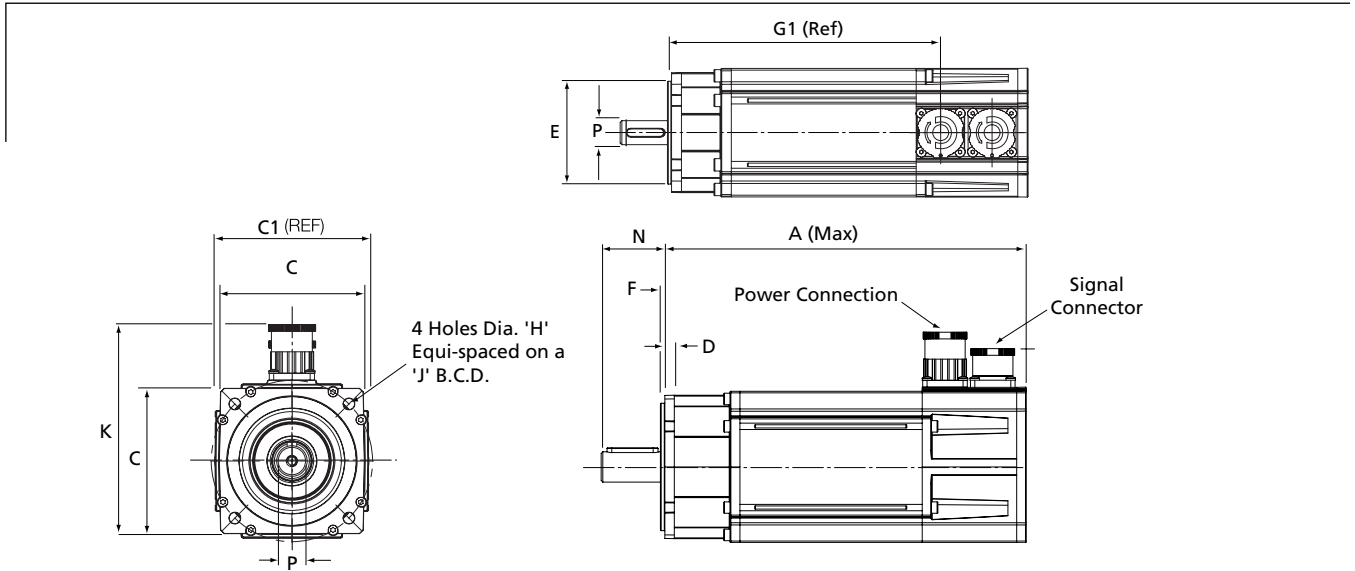
For dimensional data not shown here refer to the FM Motor brochure.

Shaft Key Detail

Frame Size 55


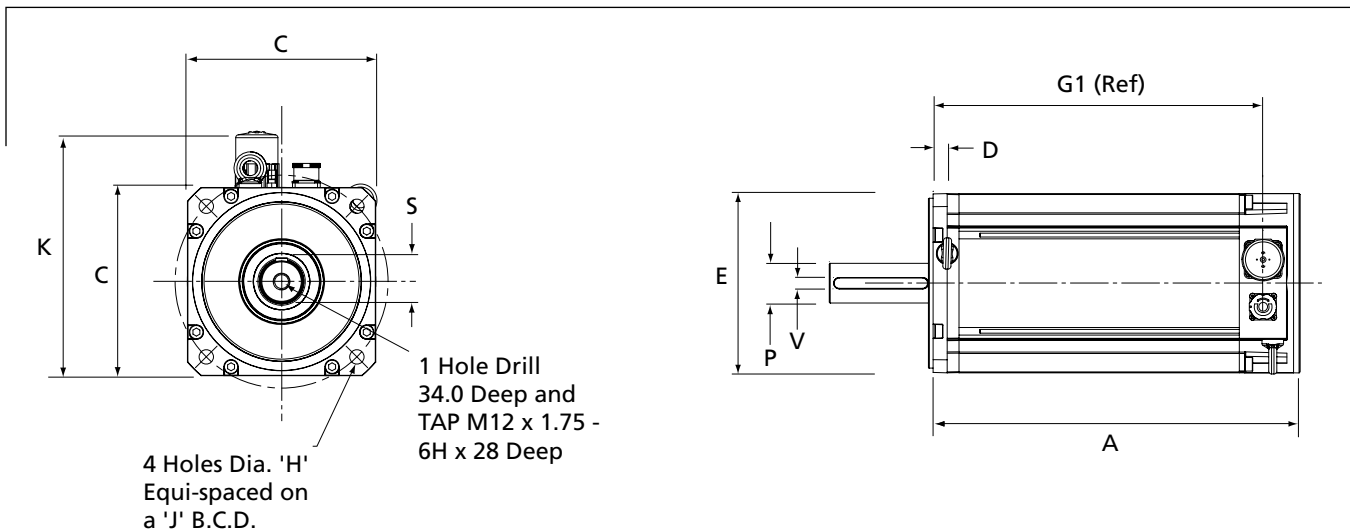
FOR VERTICAL CONNECTORS ALLOW APPROXIMATELY 175.0MM CLEARANCE FOR MATING CABLE

115				142				190			
B	C	D	E	B	C	D	E	B	C	D	F
10.87 (276.1)	12.05 (306)	13.23 (336.1)	14.41 (366)	10.12 (257.1)	11.30 (287)	12.48 (317.1)	13.67 (347)	10.44 (265.2)	11.50 (292.2)	12.56 (319)	14.69 (373)
12.64 (321.1)	12.13 (308)	15.00 (381.1)	16.19 (411)	11.89 (302.1)	13.07 (332)	14.26 (362.1)	15.44 (392)	13.63 (346.1)	14.69 (373.1)	15.75 (400)	17.87 (454)
	4.13 (105)				5.59 (142)				7.48 (190)		
	4.53 (115)				5.59 (142)				7.48 (190)		
	0.40 (10)				0.48 (12)				0.61 (16)		
	3.74 (95)				5.12 (130)				7.09 (180)		
	0.11 (2.9)				0.14 (3.5)				0.16 (4.0)		
9.17 (233.0)	10.35 (263)	11.54 (293.0)	12.72 (323)	8.43 (214)	9.61 (244)	10.79 (274)	11.97 (304)	8.90 (226.1)	9.96 (253.1)	11.02 (280)	13.15 (334)
9.76 (248.0)	12.13 (308)	13.31 (338.0)	14.49 (368)	10.20 (259)	11.38 (289)	12.56 (319)	13.74 (349)	12.09 (307)	13.15 (334)	14.21 (361)	16.33 (415)
	0.40 (10)				0.47 (12)				0.57 (14.5)		
	4.53 (115)				6.5 (165)				8.46 (215)		
	6.20 (157.5)				7.26 (184.5)				9.98 (253.5)		
1.57 (40)	1.57 (40)	1.97 (50)	1.97 (50)	1.57 (40)	1.97 (50)	1.97 (50)	1.97 (50)	3.15 (80)	3.15 (80)	3.15 (80)	3.15 (80)
0.75 (19)	0.75 (19)	0.94 (24)	0.94 (24)	0.75 (19)	0.94 (24)	0.94 (24)	0.94 (24)	1.26 (32)	1.26 (32)	1.26 (32)	1.26 (32)
1.26 (32.0)	1.26 (32.0)	1.57 (40.0)	1.57 (40.0)	1.26 (32)	1.57 (40.0)	1.57 (40.0)	1.57 (40.0)	2.76 (70.0)	2.76 (70.0)	2.76 (70.0)	2.76 (70.0)
0.84 (21.4)	0.84 (21.4)	1.06 (26.9)	1.06 (26.9)	0.84 (21.4)	1.06 (26.9)	1.06 (26.9)	1.06 (26.9)	1.37 (34.9)	1.37 (34.9)	1.37 (34.9)	1.37 (34.9)
0.19 (4.8)	0.19 (4.8)	0.23 (5.8)	0.23 (5.8)	0.19 (4.8)	0.23 (5.8)	0.23 (5.8)	0.23 (5.8)	0.23 (5.8)	0.23 (5.8)	0.23 (5.8)	0.23 (5.8)
0.24 (6.0)	0.24 (6.0)	0.31 (8.0)	0.31 (8.0)	0.24 (6.0)	0.31 (8.0)	0.31 (8.0)	0.31 (8.0)	0.39 (10.0)	0.39 (10.0)	0.39 (10.0)	0.39 (10.0)

Frame Size 75, 95



Frame Size 115, 142, 190



NT MOTOR—230V

The NT Motor is an economical, high performance motor manufactured to maximize torque and minimize size. The NT motor uses powerful Neodymium magnets and is manufactured with a segmented core to maximize stator efficiency and further reduce size.

- Very low inertia for applications that demand high accel and cycle rates
- English (NEMA 23 or 34) or Metric (IEC- 72-1) flanges
- With or without holding brakes
- The standard encoder resolution is 2048 lines per rev.
- NT motors can be ordered with MS style connectors, 1 meter Flying Leads or 1 meter Flying Leads with MS connectors, direct connect
- All models are rated IP65

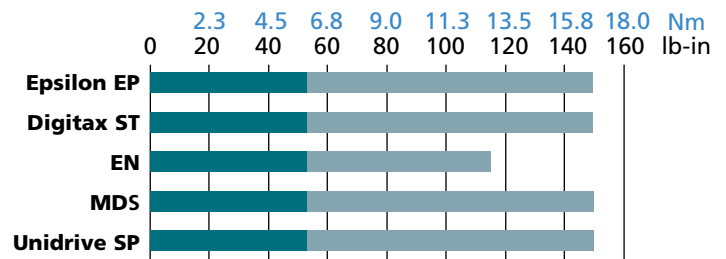
NEW

- Medium inertia options
- NT motors are now available with direct motor to drive connector terminations for Epsilon EP, Unidrive SP & Digitax ST. (These low cost DP/DS solutions are not suitable for all applications.)

NT



Continuous Torque
 Peak Torque



NT Motor Specifications

Motor Model	Rated Torque lb-in Nm	Cont. Stall Current Arms	Peak Current Arms	Motor Resistance Ohms	Motor Inductance mH	Max Operating Speed RPM	Inertia lb-in-sec ² kg-cm ²	Motor Ke Vrms/krpm	Motor Kt lb-in/Arms Nm/Arms	Motor Weight lb kg
NT-207	7.5 .85	1.7	3.6	11.1	39.1	5000	0.000094 0.106	35	5.12 0.58	3 1.36
NT-212	12.5 1.4	2.7	6	4.56	18.9	5000	0.000164 0.185	35	5.12 0.58	4 1.82
NT-320	20 2.2	5.4	16.2	1.5	16.0	4000	0.000328 0.370	29	3.50 0.40	6 2.72
NT-320 <small>medium inertia</small>	18.0 2.0	5.4	16.2	1.5	16.0	4000	0.000558 0.63	29	3.50 0.40	6.9 3.13
NT-330	32 3.6	6.25	18.38	1.2	15.0	4000	0.000438 0.494	36	4.73 0.53	7.3 3.31
NT-330 <small>medium inertia</small>	47 5.3	6.59	19.8	1.3	17.0	3000	0.000668 0.754	50	6.37 0.72	10 4.54
NT-345	47 5.3	6.59	19.8	1.3	17.0	3000	0.000668 0.754	50	6.37 0.72	10 4.54
NT-345 <small>medium inertia</small>	56 6.3	7.6	22.8	1	13.0	3000	0.000888 1.002	50	6.32 0.71	12.3 5.58
NT-355	56 6.3	7.6	22.8	1	13.0	3000	0.000888 1.002	50	6.32 0.71	12.3 5.58

Note: Encoder resolution 2048 ppr

NT Holding Brake Specifications

Motor Frame Size	Volt DC	Current (A)	Static Torque		Mechanical Disengagement Time-Brake Released ms	Mechanical Engagement Time-Brake Holding ms	Added Inertia	
			lb-in	Nm			lb-in-sec ²	kg-cm ²
2"	24	0.33	20	2.26	28	14	0.000106	0.12
3"	24	0.65	88.5	10	43	13	0.000968	1.093

NT MOTOR DIMENSIONS

English Dimensions inches (mm)	2"		3"			
	NTE-207	NTE-212	NTE-320	NTE-330	NTE-345 standard inertia NTE-330 medium inertia NTE-320 medium inertia	NTE-355 standard inertia NTE-345 medium inertia
A Length Overall - CONS (Max)	5.55 (141)	6.55 (166.4)	5.218 (132.5)	5.818 (147.8)	7.018 (178.26)	9.418 (239.22)
Length Overall - TONS/LONS (Max)	4.39 (111.5)	5.39 (136.9)	5.218 (132.5)	5.818 (147.8)	7.018 (178.26)	9.418 (239.22)
A Length Overall - CBNS (Max)	6.95 (176.4)	7.95 (201.8)	7.24 (184)	7.84 (199.2)	9.043 (229.7)	11.443 (290.65)
Length Overall - TBNS/LBNS (Max)	6.28 (159.4)	7.95 (201.8)	7.24 (184)	7.84 (199.2)	9.043 (229.7)	11.443 (290.65)
B Flange Square	2.27 (57.66)	2.27 (57.66)	3.42 (86.87)	3.42 (86.87)	3.42 (86.87)	3.42 (86.87)
C Flange Thickness	0.3 (7.49)	0.3 (7.49)	0.3 (7.62)	0.3 (7.62)	0.3 (7.62)	0.3 (7.62)
D Pilot Diameter	1.5 (38.1)	1.5 (38.1)	2.875 (73.03)	2.875 (73.03)	2.875 (73.03)	2.875 (73.03)
E Pilot Thickness	0.1 (2.54)	0.1 (2.54)	0.1 (2.54)	0.1 (2.54)	0.1 (2.54)	0.1 (2.54)
F Bolt Hole Diameter	0.205 (5.21)	0.205 (5.21)	0.22 (5.59)	0.22 (5.59)	0.22 (5.59)	0.22 (5.59)
G Bolt Circle Diameter	2.625 (66.68)	2.625 (66.68)	3.875 (98.43)	3.875 (98.43)	3.875 (98.43)	3.875 (98.43)
H Signal Connector Height - CONS (Max)	1.925 (48.89)	1.925 (48.89)	2.45 (62.24)	2.45 (62.24)	2.45 (62.24)	2.45 (62.24)
H Signal Connector Height - TONS/LONS (Max)	1.78 (45.2)	1.78 (45.2)	2.35 (59.69)	2.35 (59.69)	2.35 (59.69)	2.35 (59.69)
H Signal Connector Height - CBNS (Max)	1.98 (50.4)	1.98 (50.4)	2.56 (65)	2.56 (65)	2.56 (65)	2.56 (65)
H Signal Connector Height - TBNS/LBNS (Max)	1.78 (45.2)	1.78 (45.2)	2.5 (63.5)	2.5 (63.5)	2.5 (63.5)	2.5 (63.5)
I Shaft Length	1.2 (30.7)	1.2 (30.7)	1.2 (30.7)	1.2 (30.7)	1.2 (30.7)	1.2 (30.7)
J Shaft Diameter	0.375 (9.525)	0.375 (9.525)	0.5 (12.7)	0.5 (12.7)	0.5 (12.7)	0.5 (12.7)
Shaft key Dimensions						
K Keyway Length (Min)	0.7 (17.78)	0.7 (17.78)	0.84 (21.34)	0.84 (21.34)	0.84 (21.34)	0.84 (21.34)
L Keyway Depth	0.079 (2.007)	0.079 (2.007)	0.077 (1.96)	0.077 (1.96)	0.077 (1.96)	0.077 (1.96)
M Keyway Width	0.126 (3.2)	0.126 (3.2)	0.127 (3.23)	0.127 (3.23)	0.127 (3.23)	0.127 (3.23)
Metric Dimensions inches (mm)	2"		3"			
	NTM-207	NTM-212	NTM-320	NTM-330	NTM-345 standard inertia NTM-330 medium inertia NTM-320 medium inertia	NTM-355 standard inertia NTM-345 medium inertia
A Length Overall - CONS (Max)	5.55 (141)	6.55 (166.4)	5.218 (132.5)	5.818 (147.8)	7.018 (178.26)	9.418 (239.22)
Length Overall - TONS/LONS (Max)	4.39 (111.5)	5.39 (136.9)	5.218 (132.5)	5.818 (147.8)	7.018 (178.26)	9.418 (239.22)
A Length Overall - CBNS (Max)	6.95 (176.4)	7.95 (201.8)	7.24 (184)	7.84 (199.2)	9.043 (229.7)	11.443 (290.65)
Length Overall - TBNS/LBNS (Max)	6.28 (159.4)	7.28 (184.8)	7.24 (184)	7.84 (199.2)	9.043 (229.7)	11.443 (290.65)
B Flange Square	2.566 (65.18)	2.566 (65.18)	3.42 (86.87)	3.42 (86.87)	3.42 (86.87)	3.42 (86.87)
C Flange Thickness	0.3 (7.49)	0.3 (7.49)	0.3 (7.62)	0.3 (7.62)	0.3 (7.62)	0.3 (7.62)
D Pilot Diameter	2.363 (60)	2.363 (60)	3.15 (80)	3.15 (80)	3.15 (80)	3.15 (80)
E Pilot Thickness	0.1 (2.54)	0.1 (2.54)	0.12 (3)	0.12 (3)	0.12 (3)	0.12 (3)
F Bolt Hole Diameter	0.228 (5.8)	0.228 (5.8)	0.276 (7.01)	0.276 (7.01)	0.276 (7.01)	0.276 (7.01)
G Bolt Circle Diameter	2.953 (75)	2.953 (75)	3.937 (100)	3.937 (100)	3.937 (100)	3.937 (100)
H Signal Connector Height - CONS (Max)	1.925 (48.89)	1.925 (48.89)	2.45 (62.24)	2.45 (62.24)	2.45 (62.24)	2.45 (62.24)
H Signal Connector Height - TONS/LONS (Max)	1.78 (45.2)	1.78 (45.2)	2.35 (59.69)	2.35 (59.69)	2.35 (59.69)	2.35 (59.69)
H Signal Connector Height - CBNS (Max)	1.98 (50.4)	1.98 (50.4)	2.56 (65)	2.56 (65)	2.56 (65)	2.56 (65)
H Signal Connector Height - TBNS/LBNS (Max)	1.78 (45.2)	1.78 (45.2)	2.5 (63.5)	2.5 (63.5)	2.5 (63.5)	2.5 (63.5)
I Shaft Length	0.926 (23.51)	0.512 (23.51)	1.2 (30.7)	1.2 (30.7)	1.2 (30.7)	1.2 (30.7)
J Shaft Diameter	0.433 (11)	0.433 (11)	0.5512 (14)	0.5512 (14)	0.5512 (14)	0.5512 (14)
Shaft key Dimensions						
K Keyway Length (Min)	0.512 (13)	0.512 (13)	0.79 (20)	0.79 (20)	0.79 (20)	0.79 (20)
L Keyway Depth	0.083 (2.1)	0.083 (2.1)	0.1 (2.55)	0.1 (2.55)	0.1 (2.55)	0.1 (2.55)
M Keyway Width	0.157 (4)	0.157 (4)	0.2 (5.05)	0.2 (5.05)	0.2 (5.05)	0.2 (5.05)

Servomotors