

MDS

230V NT and MG Motors

The NT is an economical, high performance motor manufactured with powerful Neodymium magnets and a patented segmented core to maximize torque and minimize size. The NT motor has a very low inertia for applications that demand high accel and cycle rates. NT motors can be ordered with MS style connectors, 1 m Flying Leads or 1 m Flying Leads with MS connectors.

The MG Motor is a compact, low inertia motor ideal for dynamic applications needing greater torque than the NT. Both the NT and MG are available with English and Metric flanges, with or without brakes. Both have a standard encoder resolution of 2048 lines per rev.



MDS - 230V NT Motor Specifications

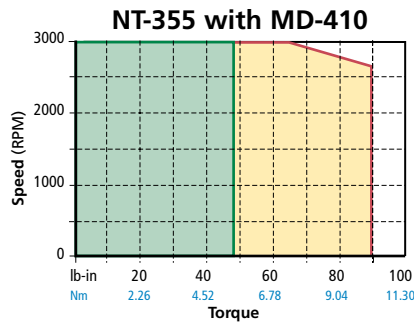
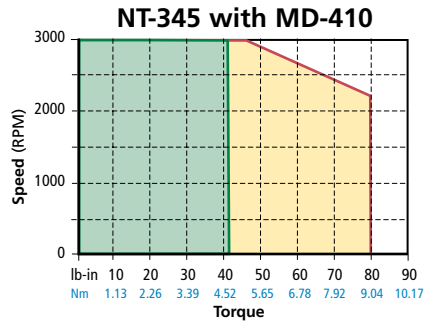
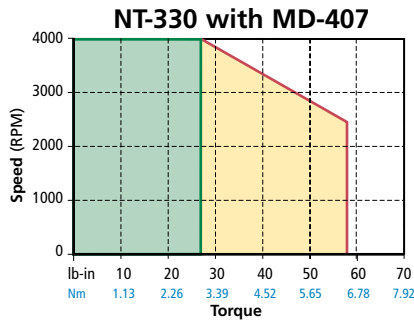
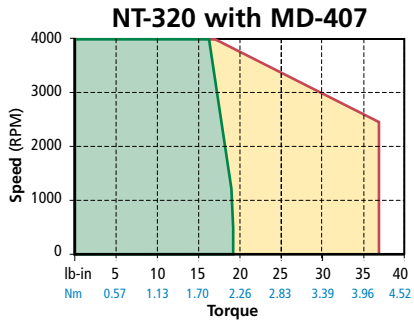
Drive Model	Motor Model	Cont. Stall Torque	Peak Stall Torque	Rated Torque @Rated Speed*	Rated Power HP	Max.* Operating Speed RPM	Encoder Resolution lines/rev	Inertia lb-in-sec ²	Motor Ke Vrms/krpm	Motor Kt lb-in/Arms	Motor Weight lb
		lb-in Nm	lb-in Nm	lb-in Nm	kWatts						
MD-407	NT-320	19.5	38	16	1.02	4000	2048	0.000328	29	3.50	6
		2.2	4.3	1.8	0.8						
MD-407	NT-330	27	58	27	1.71	4000	2048	0.000438	36	4.73	7.3
		3.05	6.55	3.1	1.3						
MD-410	NT-345	42	80	42	2.00	3000	2048	0.000668	50	6.37	10.0
		4.75	9.04	4.75	1.49						
MD-410	NT-355	48	90	48	2.28	3000	2048	0.000888	50	6.32	12.3
		5.42	10.2	5.42	1.71						

MDS - 230V MG Motor Specifications

Drive Model	Motor Model	Cont. Stall Torque	Peak Stall Torque	Rated Torque @Rated Speed*	Rated Power HP	Max.* Operating Speed RPM	Encoder Resolution lines/rev	Inertia lb-in-sec ²	Motor Ke Vrms/krpm	Motor Kt lb-in/Arms	Motor Weight lb
		lb-in Nm	lb-in Nm	lb-in Nm	kWatts						
MD-404	MG-316	18.6	42	16	1.02	4000	2048	0.000560	38	5.5	8.3
		2.1	4.6	1.8	0.8						
MD-407	MG-316	18.6	56	16	1.02	4000	2048	0.000560	38	5.5	8.3
		2.1	6.3	1.8	0.8						
MD-407	MG-340	50	133	42	2.00	3000	2048	0.001458	57	8.3	14.6
		5.7	15.0	4.8	1.5						
MD-410	MG-455	68	154	52	2.48	3000	2048	0.002658	60	8.8	20.0
		7.7	17.5	5.8	1.9						
MD-420	MG-455	68	200	52	2.48	3000	2048	0.002658	60	8.8	20.0
		7.7	22.6	5.8	1.9						
MD-420	MG-490	129	302	80	3.81	3000	2048	0.005175	59	8.6	28.6
		14.57	34.1	9.0	2.8						
MD-420	MG-4120	163	382	120	5.71	3000	2048	0.007458	72	10.5	37.0
		18.4	43.2	13.6	4.3						

* Rated Speed = Maximum Operating Speed

MDS - 230V NT Motor Speed Torque Curves



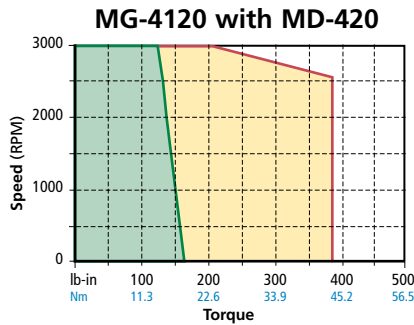
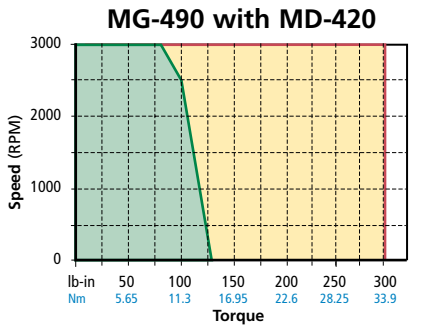
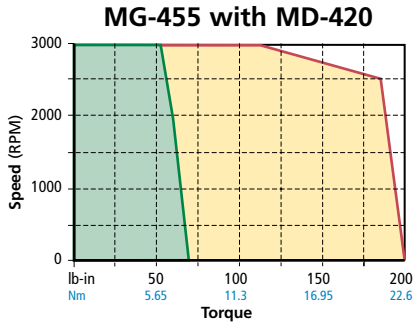
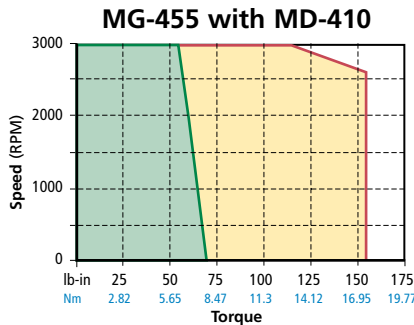
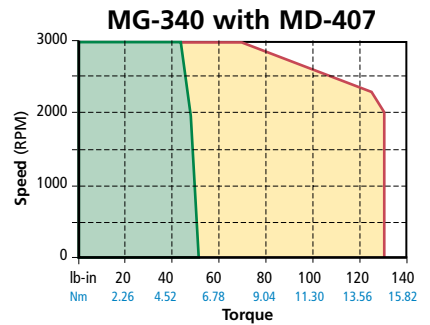
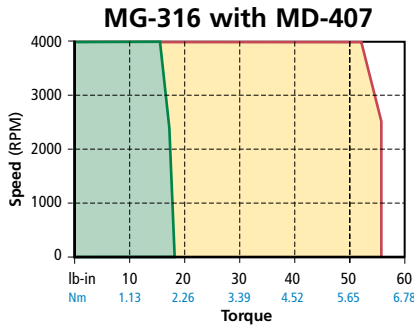
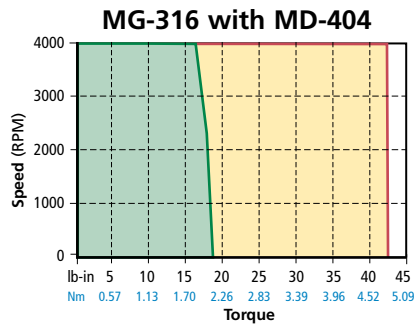
Legend

- Continuous Torque
- Peak Torque

SPECIFICATIONS

Voltage	240 VAC
Drive Frequency	5 kHz
Ambient Temperature	25°C (77°F)
Case Temperature	100°C (212°F)

MDS - 230V MG Motor Speed Torque Curves



SPECIFICATIONS

All performance data listed above has a +/-10% tolerance and is subject to change at any time without notice. For more detailed information on performance data and test conditions please refer to the motor section of the catalog. For brake motor information, complete motor specifications and dimensions please refer to our motor section.

MDS

230V NT Motor Selection

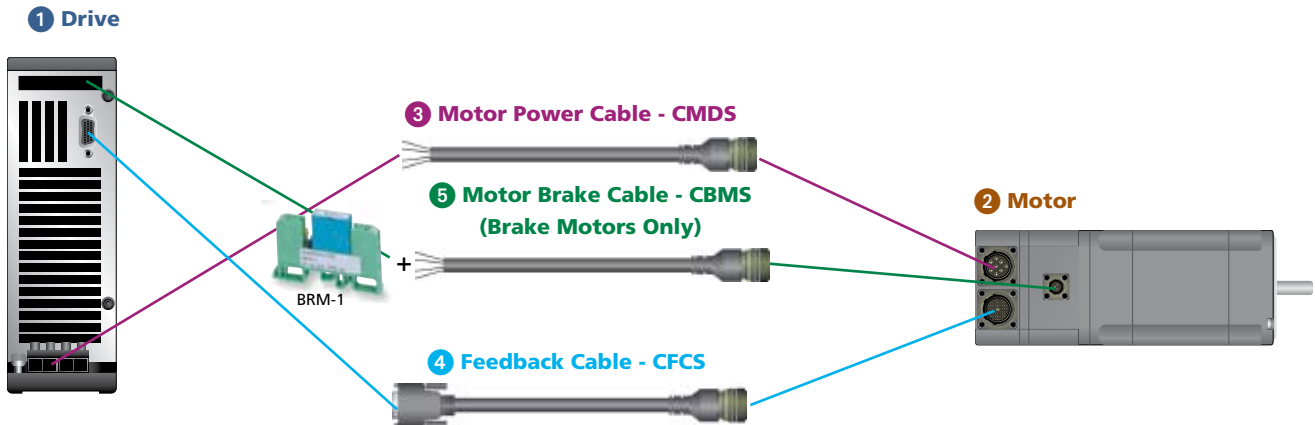
The NT motor is a high performance motor utilizing patented technology to maximize torque in a compact package. The NT motor uses powerful Neodymium magnets and is manufactured with a segmented core to maximize stator efficiency. The NT motor has a very low inertia for applications that demand high accel and cycle rates. NT motors are available in English (NEMA 23 or 34) or Metric (IEC-72-1) flanges, with or without brakes. The standard encoder resolution is 2048 lines per rev. NT motors can be ordered with MS style connectors, 1 m Flying Leads, or 1 m Flying Leads with MS connectors.

Order String

NT	x	x	xx	x	x	N	S	0000
↑	↑	↑	↑	↑	↑	↑	↑	↑

Special Options: DSXX = DSUB
 Inertia: **S** = Standard, **I** = Medium
 Encoder Feedback Type: **N** = Encoder
 Brake Option: **B** = with Brake, **O** = No Brake
 Connector Type:
C = MS connectors on motor
T = MS connectors on one meter leads
L = one meter leads without connectors
 Continuous Torque (lb-in): **20, 30, 45** or **55**
 Frame Size (in inches): **3**
 Mounting Flange: **E** = English, **M** = Metric
NT Motor Family

For additional motor information see the Servo Motor area in this section for details.
For additional cable options see Options



Servo System Order Guide

① Drive Model	② Motor Model (x=Flange type) (y=Connector)	③ Motor Power Cable (xxx=feet)	④ Feedback Cable (xxx=feet)	⑤ Motor Brake Cable (required w/all brake motors) (xxx=feet)
MD-407-00-000	NTx-320-yONS-0000	CMDS-xxx	CFCS-xxx	
	NTx-320-yBNS-0000	CMDS-xxx	CFCS-xxx	CBMS-xxx
	NTx-330-yONS-0000	CMDS-xxx	CFCS-xxx	
	NTx-330-yBNS-0000	CMDS-xxx	CFCS-xxx	CBMS-xxx
MD-410-00-000	NTx-345-yONS-0000	CMDS-xxx	CFCS-xxx	
	NTx-345-yBNS-0000	CMDS-xxx	CFCS-xxx	CBMS-xxx
	NTx-355-yONS-0000	CMDS-xxx	CFCS-xxx	
	NTx-355-yBNS-0000	CMDS-xxx	CFCS-xxx	CBMS-xxx

MDS

230V MG Motor Selection

The MG motor is a low inertia motor that is great for dynamic applications that have larger load inertias. MG motors use Neodymium magnets to achieve a high torque to inertia ratio giving them a size advantage when compared to competitors motors. MG motors are available in English (NEMA 23, 34, or 56) and Metric (IEC-72-1) flanges, with or without brakes. The standard encoder resolution is 2048 lines per rev. MG motors come standard with MS style connectors. For applications that require custom motors the MG line is the choice.

Order String

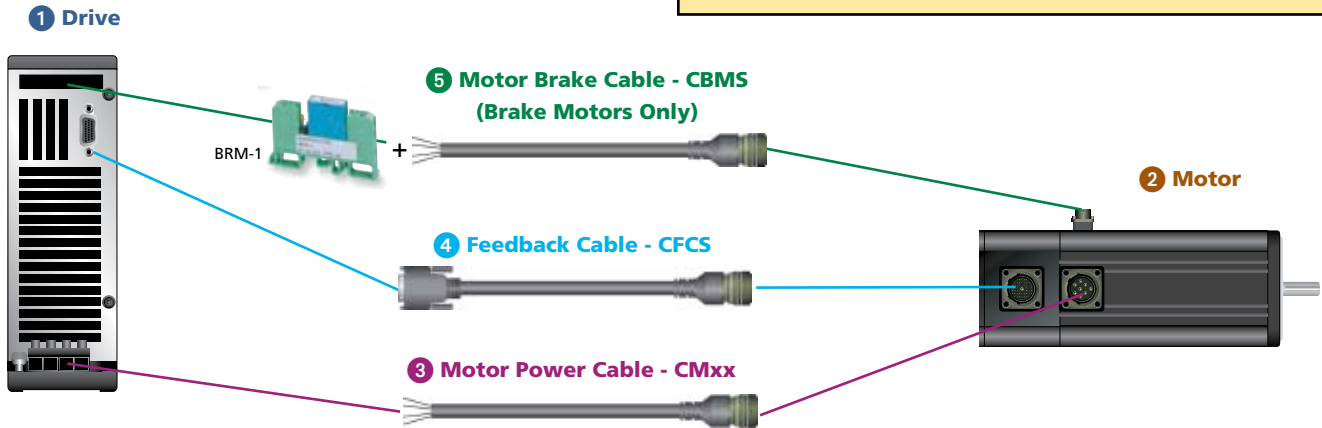
MG	x	x	xx	C	x	N	S	0000
↑	↑	↑	↑	↑	↑	↑	↑	↑

Special Options
 S = Shaft Seal (Standard)
 N = Encoder Feedback Type: Encoder
 Brake Option: B = with Brake, O = No Brake
 Connector Type:
 C = MS connectors on motor
 Continuous Torque (lb-in): 16, 40, 55, 90 or 120
 Frame Size (in inches): 3 or 4
 Mounting Flange: E = English, M = Metric

MG Motor Family

For additional motor information see the Servo Motor area in this section for details.
 For additional cable options see Options

MDS Series



① Drive Model	② Motor Model (x=Flange type)	③ Motor Power Cable (xxx=feet)	④ Feedback Cable (xxx=feet)	⑤ Motor Brake Cable (required w/all brake motors) (xxx=feet)
MD-404-00-000	MGx-316-CONS-0000	CMDS-xxx	CFCS-xxx	
	MGx-316-CBNS-0000	CMDS-xxx	CFCS-xxx	CBMS-xxx
MD-407-00-000	MGx-316-CONS-0000	CMDS-xxx	CFCS-xxx	
	MGx-316-CBNS-0000	CMDS-xxx	CFCS-xxx	CBMS-xxx
	MGx-340-CONS-0000	CMDS-xxx	CFCS-xxx	
	MGx-340-CBNS-0000	CMDS-xxx	CFCS-xxx	CBMS-xxx
MD-410-00-000	MGx-455-CONS-0000	CMMS-xxx	CFCS-xxx	
	MGx-455-CBNS-0000	CMMS-xxx	CFCS-xxx	CBMS-xxx
MD-420-00-000	MGx-455-CONS-0000	CMMS-xxx	CFCS-xxx	
	MGx-455-CBNS-0000	CMMS-xxx	CFCS-xxx	CBMS-xxx
	MGx-490-CONS-0000	CMMS-xxx	CFCS-xxx	
	MGx-490-CBNS-0000	CMMS-xxx	CFCS-xxx	CBMS-xxx
	MGx-4120-CONS-0000	CMMS-xxx	CFCS-xxx	
	MGx-4120-CBNS-0000	CMMS-xxx	CFCS-xxx	CBMS-xxx

MDS

460V FM Motor

MDS Series

The FM 460V line is a medium to high inertia line for larger load applications. It is designed to allow use in many applications and offers a wide range of options. The FM line is offered in metric frame sizes, 75 mm, 95 mm, 115 mm, 142 mm and 190 mm. The standard configured motor has a 4096 line encoder, vertical connectors and non-brake. This configuration is designed with low cogging torque to provide smooth operation and excellent velocity regulation. The torque range available is 38.2 lb-in (4.3 Nm) to 520 lb-in (58.8 Nm). All models are rated IP65.

The FM motor is also available with many other options like resolver and Sin/Cos feedback, NEMA flange, different shaft diameters, 90° and rotatable connectors, and a high peak torque option that allows intermittent operation near 5 times their continuous torque levels.

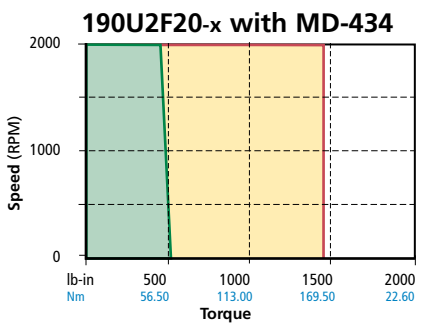
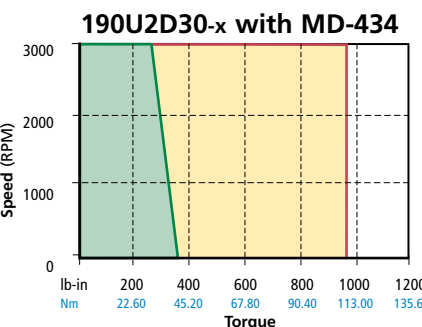
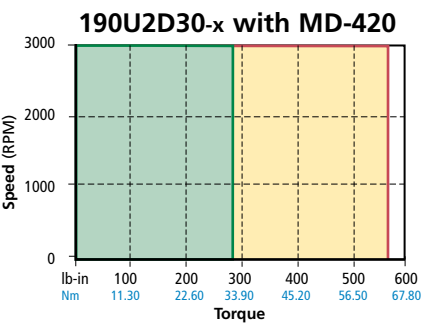
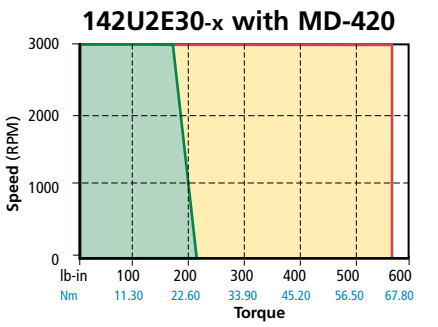
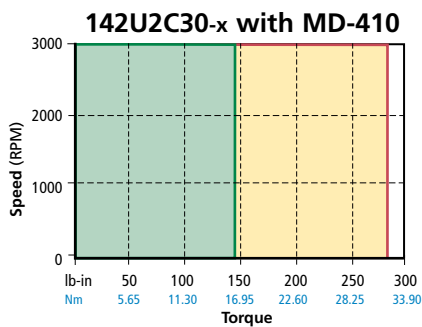
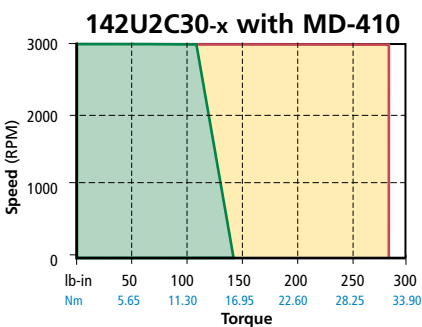
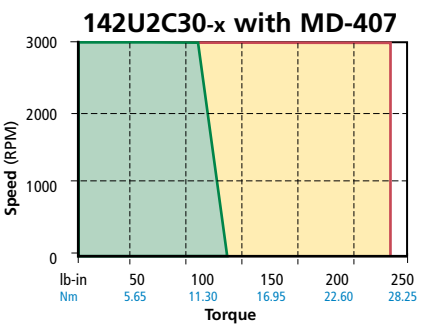
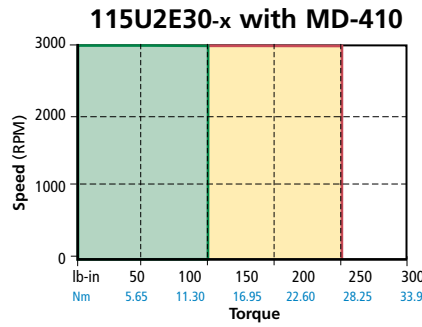
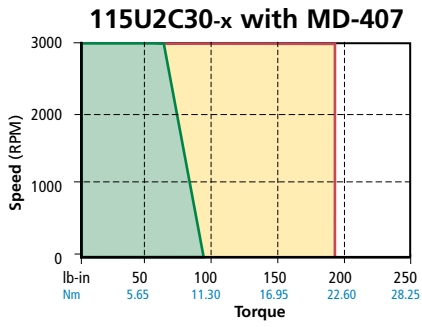
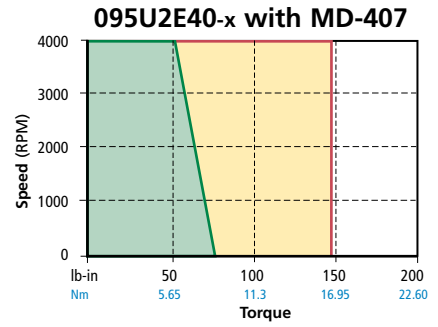
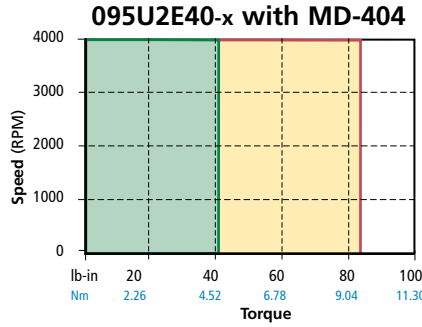
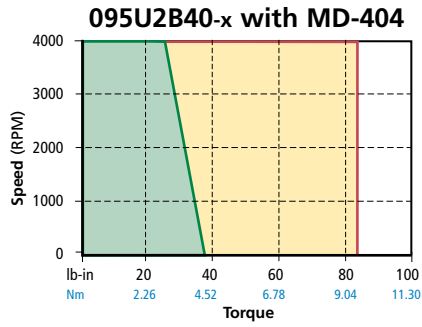


MDS - 460V FM Motor Specifications

Drive Model	Motor Model	Cont. Stall Torque lb-in Nm	Peak Stall Torque lb-in Nm	Rated Torque @Rated Speed* lb-in Nm	Rated Power HP kWatts	Max.* Operating Speed RPM	Encoder Resolution lines/rev	Inertia lb-in-sec ² kg-cm ²	Motor Ke Vrms/ krpm	Motor Kt lb-in/Arms Nm/Arms	Motor Weight lb kg
MD-404	095U2B400	38.23	84.96	26.55	1.68	4000	4096	0.002567	74	10.62	6.3
		4.32	9.60	3.00	1.26						2.9
MD-404	095U2E400	42.48	84.96	42.48	2.68	4000	4096	0.005487	74	10.62	9.9
		4.80	9.60	4.80	2.01						6.2
MD-407	095U2E400	74.34	148.68	50.45	3.19	4000	4096	0.005487	74	10.62	9.9
		8.40	16.80	5.70	2.39						6.2
MD-407	115U2C300	83.54	198.24	71.68	3.39	3000	4096	0.007965	98	14.16	11.6
		9.44	22.40	8.10	2.54						9
MD-410	115U2E300	135.94	283.20	111.51	5.28	3000	4096	0.012213	98	14.16	15.4
		15.36	32.00	12.60	3.96						13.8
MD-407	142U2C300	99.12	198.24	99.12	4.69	3000	4096	0.019647	98	14.16	35.4
		11.20	22.40	11.20	3.52						22.2
MD-410	142U2C300	135.94	283.20	107.97	5.11	3000	4096	0.019647	98	14.16	35.4
		15.36	32.00	12.20	3.83						22.2
MD-410	142U2E300	141.60	283.20	141.60	6.71	3000	4096	0.031329	98	14.16	47.7
		16.00	32.00	16.00	5.03						35.4
MD-420	142U2E300	208.15	566.40	159.30	7.53	3000	4096	0.031329	98	14.16	47.7
		23.52	64.00	18.00	5.65						35.4
MD-420	190U2D300	283.20	566.40	283.20	13.40	3000	4096	0.076464	98	14.16	74.6
		32.00	64.00	32.00	10.05						86.4
MD-434	190U2D300	363.91	962.88	283.20	13.81	3000	4096	0.076464	98	14.16	74.6
		41.12	108.80	32.00	10.36						86.4
MD-434	190U2F200	520.38	1444.32	446.04	14.07	2000	4096	0.108944	147	21.24	93.5
		58.80	163.20	50.40	10.55						123.1

*Rated Speed = Maximum Operating Speed

MDS - 460V FM Motor Speed Torque Curves



Legend

- Continuous Torque
- Peak Torque

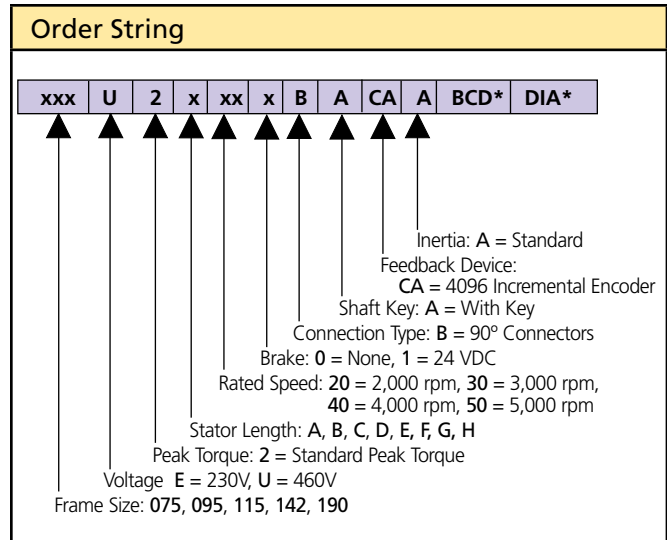
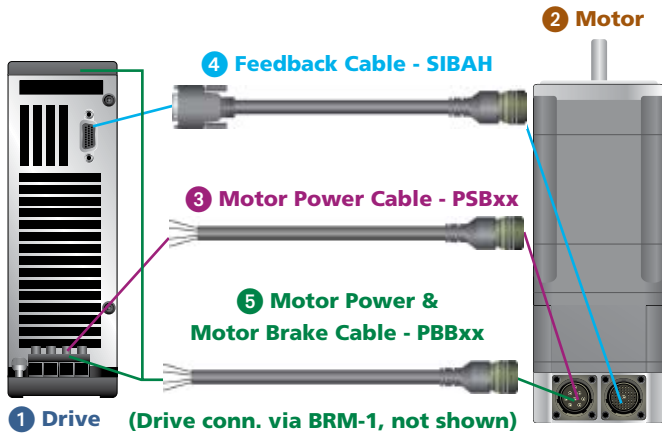
SPECIFICATIONS	
Voltage	480 VAC
Drive Frequency	5 kHz
Ambient Temperature	40°C (104°F)
Case Temperature	140°C (284°F)

All performance data listed above has a +/-10% tolerance and is subject to change at any time without notice. For more detailed information on performance data and test conditions please refer to the motor section of the catalog. For brake motor information, complete motor specifications and dimensions please refer to our motor section.

MDS

460V FM Motor Selection

MDS Series



* Bolt Circle & Shaft Diameter are standard dimensions see FM Motor section for additional options.

Servo System Order Guide

1 Drive Model	2 Motor Model	3 Motor Power Cable (yyy=meters)	4 Feedback Cable (yyy=meters)	5 Motor Power/Brake Cable (required w/all brake motors) (yyy=meters)
MD-404	095U2E400 BACAA100190	PSBAA-yyy	SIBAH-yyy	
	095U2E401 BACAA100190			PBBAA-yyy
MD-407	095U2E400 BACAA100190	PSBAA-yyy	SIBAH-yyy	
	095U2E401 BACAA100190			PBBAA-yyy
	115U2C300 BACAA115190	PSBAA-yyy	SIBAH-yyy	
	115U2C301 BACAA115190			PBBAA-yyy
MD-407	115U2E300 BACAA115240	PSBAA-yyy	SIBAH-yyy	
	115U2E301 BACAA115240			PBBAA-yyy
MD-410	115U2E300 BACAA115240	PSBAA-yyy	SIBAH-yyy	
	115U2E301 BACAA115240			PBBAA-yyy
MD-407	142U2C300 BACAA165240	PSBAA-yyy	SIBAH-yyy	
	142U2C301 BACAA165240			PBBAA-yyy
MD-410	142U2C300 BACAA165240	PSBBA-yyy	SIBAH-yyy	
	142U2C301 BACAA165240			PBBAA-yyy
	142U2E300 BACAA165240	PSBBA-yyy	SIBAH-yyy	
	142U2E301 BACAA165240			PBBAA-yyy
MD-420	142U2E300 BACAA165240	PSBBA-yyy	SIBAH-yyy	
	142U2E301 BACAA165240			PBBAA-yyy
	190U2D300 BACAA215320	PSBAK-yyy	SIBAH-yyy	
MD-434	190U2D301 BACAA215320			PBBAK-yyy
	190U2F200 BACAA215320	PSBCK-yyy	SIBAH-yyy	
MD-434	190U2F201 BACAA215320			PBBCK-yyy
	190U2F201 BACAA215320			PBBCK-yyy

Motors can be custom ordered with Parking Brake, High energy dissipation brake, fixed or vertical connectors, IEC and NEMA flanges, Incremental, Absolute Sin/Cos Single and Multi-turn encoders, resolvers and extended peak torque range. Custom bolt circle and shaft diameter are also available. Contact Factory for details.

MDS

460V MH Motor

The MH Motor is a low inertia motor that is ideally suited to the MDS operating with 460 VAC Input. Applications with torque requirements between 21.5 lb-in (2.4 Nm) and 748 lb-in (84.5 Nm) can be solved. MH motors use Neodymium magnets to achieve a high torque to inertia ratio giving them a size advantage when compared to competitors' motors. MH motors are available in English and Metric flanges, with or without brakes. The standard encoder resolution is 2048 lines per rev. For applications that require custom motors the MH line is the choice.



MDS - 460V MH Motor Specifications

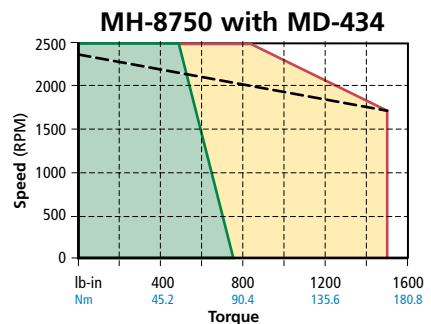
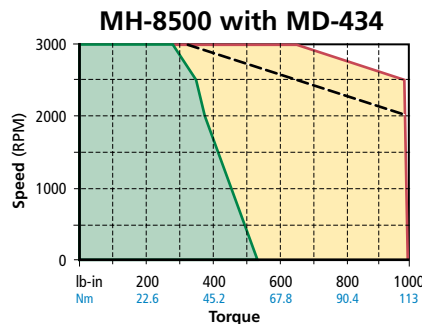
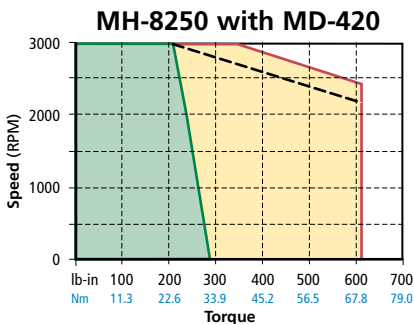
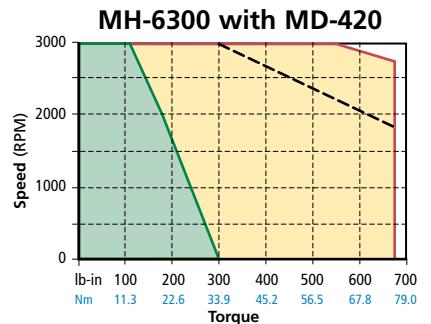
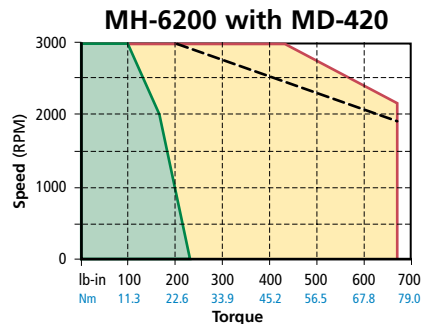
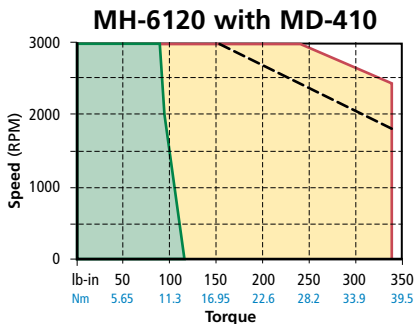
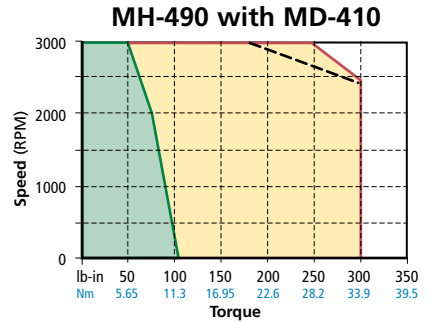
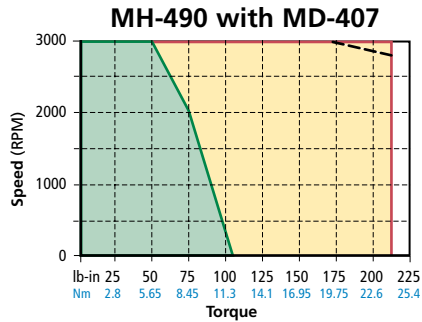
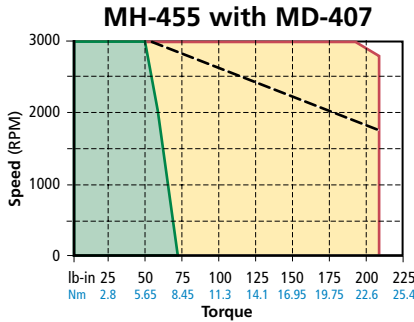
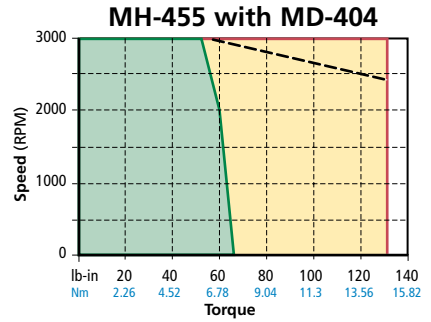
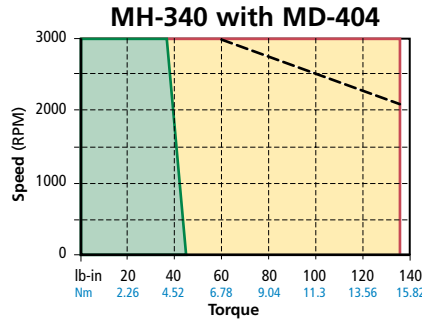
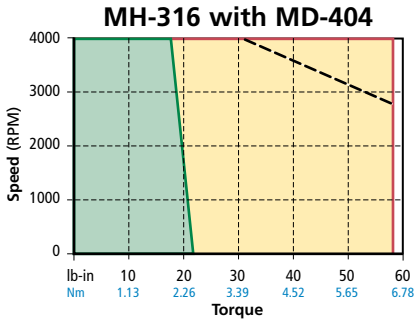
Drive Model	Motor Model**	Cont. Stall Torque lb-in Nm	Peak Stall Torque lb-in Nm	Rated Torque @Rated Speed* lb-in Nm	Rated Power HP kWatts	Max.* Operating Speed RPM	Encoder Resolution lines/rev	Inertia lb-in-sec ² kg-cm ²	Motor Ke Vrms/krpm	Motor Kt lb-in/Arms Nm/Arms	Motor Weight lb kg
MD-404	MH-316	21.5 2.4	58 6.6	17.5 2	1.11 0.83	4000	2048	0.000673 0.8	75	10.98 1.24	8.3 3.8
MD-404	MH-340	46 5.2	135 15.3	37 4.2	1.76 1.31	3000	2048	0.001428 1.6	116	16.98 1.92	12.4 5.6
MD-404	MH-455	65 7.3	131 14.8	50.6 5.7	2.41 1.8	3000	2048	0.003557 4	120	17.57 1.99	18 8.2
MD-407	MH-455	72.5 8.2	210 23.7	50.6 5.7	2.41 1.8	3000	2048	0.003557 4	120	17.57 1.99	18 8.2
MD-407	MH-490	105 11.9	210 23.7	50 5.7	2.38 1.78	3000	2048	0.006727 7.6	110	16.10 1.82	26.2 11.9
MD-410	MH-490	105 11.9	300 33.9	50 5.7	2.38 1.78	3000	2048	0.006727 7.6	110	16.10 1.82	26.2 11.9
MD-410	MH-6120	119 13.4	336.8 38.1	91.4 10.3	4.35 3.25	3000	2048	0.010657 12	115	16.84 1.9	32.4 14.7
MD-420	MH-6200	234 26.4	673.6 76.1	95.9 10.8	4.57 3.41	3000	2048	0.018857 21.3	115	16.84 1.9	48 21.8
MD-420	MH-6300	299 33.8	673.6 76.1	105.4 11.9	5.02 3.74	3000	2048	0.027187 30.7	115	16.84 1.9	65 29.5
MD-420	MH-8250	285 32.2	607 68.6	210 23.7	10 7.45	3000	2048	0.059 61.4	128	18.70 2.11	77 35
MD-434	MH-8500	530 60.2	997 113.2	280 31.8	13.34 9.95	3000	2048	0.078 87.8	121.6	17.80 2.01	110 49.9
MD-434	MH-8750	748 84.5	1500 170.3	485 54.8	19.24 14.35	2500	2048	0.133 150	162	23.70 2.68	171 77.6

* Rated Speed = Maximum Operating Speed

**See the complete order string in the Servo motor section of this catalog.

MDS - 460V MH Motor Speed Torque Curves

MDS Series



- Legend**
- - - 380V Curve
 - Continuous Torque
 - Peak Torque

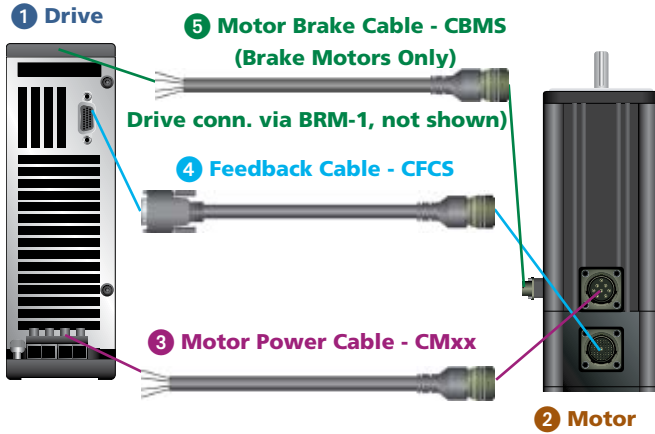
SPECIFICATIONS

Voltage 480 VAC
 Drive Frequency 5 kHz
 Ambient Temperature 25°C (77°F)
 Case Temperature 100°C (212°F)

All performance data listed above has a +/-10% tolerance and is subject to change at any time without notice. For more detailed information on performance data and test conditions please refer to the motor section of the catalog. For brake motor information, complete motor specifications and dimensions please refer to our motor section.

MDS

460V MH Motor Selection



Order String

MH	X	X	XX	C	X	N	S	0000
↑	↑	↑	↑	↑	↑	↑	↑	↑

Special Options
S = Shaft Seal (Standard)
N = Feedback Type: Encoder

Brake Option:
B = with brake
O = without brake

Connector Type:
C = MS connectors on motor

Continuous Torque (lb - in): **16, 40, 55, 90, 120, 200, 250, 300, 500, or 750**

Frame Size (in inches): **3, 4, 6 or 8**

Mounting Flange: E = English, M = Metric

MH Motor Family

MDS Series

Servo System Order Guide

① Drive Model	② Motor Model (x=flange type)	③ Motor Power Cable (xxx=feet)	④ Feedback Cable (xxx=feet)	⑤ Motor Brake Cable (required w/all brake motors) (xxx=feet)
MD-404-00-000	MHx-316-CONS-0000	CMDS-xxx	CFCS-xxx	
	MHx-316-CBNS-0000	CMDS-xxx	CFCS-xxx	CBMS-xxx
	MHx-340-CONS-0000	CMDS-xxx	CFCS-xxx	
	MHx-340-CBNS-0000	CMDS-xxx	CFCS-xxx	CBMS-xxx
	MHx-455-CONS-0000	CMMS-xxx	CFCS-xxx	
	MHx-455-CBNS-0000	CMMS-xxx	CFCS-xxx	CBMS-xxx
MD-407-00-000	MHx-455-CONS-0000	CMMS-xxx	CFCS-xxx	
	MHx-455-CBNS-0000	CMMS-xxx	CFCS-xxx	CBMS-xxx
	MHx-490-CONS-0000	CMMS-xxx	CFCS-xxx	
	MHx-490-CBNS-0000	CMMS-xxx	CFCS-xxx	CBMS-xxx
MD-410-00-000	MHx-490-CONS-0000	CMMS-xxx	CFCS-xxx	
	MHx-490-CBNS-0000	CMMS-xxx	CFCS-xxx	CBMS-xxx
	MHM-6120-CONS-0000	CMMS-xxx	CFCS-xxx	
	MHM-6120-CBNS-0000	CMMS-xxx	CFCS-xxx	CBMS-xxx
MD-420-00-000	MHM-6200-CONS-0000	CMMS-xxx	CFCS-xxx	
	MHM-6200-CBNS-0000	CMMS-xxx	CFCS-xxx	CBMS-xxx
	MHM-6300-CONS-0000	CMMS-xxx	CFCS-xxx	
	MHM-6300-CBNS-0000	CMMS-xxx	CFCS-xxx	CBMS-xxx
	MHM-8250-CONS-0000	CMLS-xxx	CFCS-xxx	
	MHM-8250-CBNS-0000	CMLS-xxx	CFCS-xxx	CBMS-xxx
MD-434-00-000	MHM-8500-CONS-0000	CMLS-xxx	CFCS-xxx	
	MHM-8500-CBNS-0000	CMLS-xxx	CFCS-xxx	CBMS-xxx
	MHM-8750-CONS-0000	CMLS-xxx	CFCS-xxx	
	MHM-8750-CBNS-0000	CMLS-xxx	CFCS-xxx	CBMS-xxx