

Inverter Speed Ratio Information

Guidelines for Application of General Purpose, Three Phase, Single Speed Motors on Variable Frequency Drives Meets NEMA MG1-2006 Part 30 and Part 31 Section 4.4.2 Unless stated otherwise, motor nameplates do NOT include listed speed range.

ENCLOSURE	EFFICIENCY	VARIABLE TORQUE	CONSTANT TORQUE								
		ALL FRAMES	56	143-215		254-286		324-365		404-449	
NEMA Motors		ALL POLES	ALL POLES	2-Pole	4&6 Pole	2-Pole	4&6 Pole	2-Pole	4&6 Pole	2-Pole	4&6 Pole
ODP	Standard (EPAAct exempt)	10:1	2:1	2:1	2:1	Contact Engineering					
	EPAAct compliant	10:1	n/a	10:1	2:1	2:1	2:1	Contact Engineering			
	NEMA Premium	10:1	n/a	2:1	10:1	10:1	10:1				
TEFC	Standard (EPAAct exempt)	10:1	2:1	2:1	2:1	Contact Engineering					
	EPAAct compliant	10:1	n/a	2:1	10:1	2:1	10:1	2:1	2:1	2:1	2:1
	NEMA Premium	10:1	n/a	2:1	20:1	2:1	20:1	2:1	20:1 (1)	2:1	20:1 (1)
TENV	EPAAct compliant	10:1	n/a	1000:1	1000:1	1000:1	1000:1	1000:1	1000:1	1000:1	1000:1
	NEMA Premium	10:1	1000:1	1000:1	1000:1	1000:1	1000:1	1000:1	1000:1	1000:1	1000:1
Washdown TEFC	Standard (EPAAct exempt)	10:1	10:1 (2)	10:1 (2)	10:1 (2)	n/a	n/a	n/a	n/a	n/a	n/a
	EPAAct compliant	10:1	10:1 (2)	10:1 (2)	10:1 (2)	n/a	n/a	n/a	n/a	n/a	n/a
	NEMA Premium	10:1	10:1 (2)	10:1 (2)	10:1 (2)	n/a	n/a	n/a	n/a	n/a	n/a
Washdown TENV	Standard (EPAAct exempt)	10:1	1000:1	1000:1	1000:1	n/a	n/a	n/a	n/a	n/a	n/a
	EPAAct compliant	10:1	1000:1	1000:1	1000:1	n/a	n/a	n/a	n/a	n/a	n/a
	NEMA Premium	10:1	1000:1	1000:1	1000:1	n/a	n/a	n/a	n/a	n/a	n/a
Explosion Proof	all efficiency levels	Explosion Proof motors must be properly nameplated with inverter duty information prior to use on VFD. See LEESON catalog pages for specific rating capabilities. Motors with automatic overload protectors cannot be used on VFDs.									
IEC Motors		ALL FRAMES	63-90		100-225		250-315				
all Enclosures	all efficiency levels	10:1	20:1		Up to 20:1		Up to 2:1				

Note (2) - Washdown TEFC motors are rated for 10:1 C.T. 60 minute duty or 2:1 C.T. continuous duty at lowest RPM

Lincoln Rolled Steel - ODP - 280-360 Frame - 2:1 Constant Torque
 280 Frame and Higher - TEFC -280-360 Frame- 2:1 Constant Torque
 400 Frame and Higher - Contact Local Sales office
 Stock 90 VDC and 180 VDC Motors 30:1 of rated torque

Application Notes

Bearing currents: LEESON Electric recommends that any motors used with Variable Frequency Drives be equipped with suitable means to protect the motor bearings from shaft currents caused by common mode voltages inherent with operation on a non-sinusoidal power supply. LEESON Electric offers several options for motors in non-classified (non-hazardous) locations, including ground brushes, insulated bearings and non-contact shaft grounding rings. For more information on ground brushes and bearing currents, see the VARIABLE SPEED OPERATION section. For installation cost and available options, see the MOD Squad section.

Restricted use: DO NOT APPLY THE FOLLOWING MOTORS ON VARIABLE FREQUENCY DRIVES:

Single Phase motors: Motors with inherent overload protection, Multi-speed motors, Motors with 1.0 service Factor on sine wave power. Fire Pump motors should not be used with variable frequency power supplies, due to the critical nature of these applications.

Hazardous locations: Consult with LEESON Electric when applying motors and drives into hazardous locations, either Division/Zone 1 or Division/Zone 2 areas. UL and CSA policies prohibit the installation of bearing protection devices, such as shaft grounding brushes, rings or insulated bearings on motors in hazardous locations.

Maximum Cable Lengths from the Motor to Drive

* Higher carrier frequencies require shorter cable length to obtain normal (50Khrs) insulation life.

Standard Motor Insulation Systems

PRODUCT DESCRIPTION	3 kHz CARRIER FREQUENCY (PHASE TO PHASE)*		
	230 VOLT	460 VOLT	575 VOLT
56-326 NEMA, 100-225 IEC Frames	600 ft.	125 ft.	40 ft.
364-5013 NEMA, 250-315 IEC Frames	1000 ft.	225 ft.	60 ft.
Motors with Corona Resistant Magnet Wire	1500 ft.	475 ft.	140 ft.
Motors with IRIS™ or Ultimate-e™ Spike Defense™	Unlimited	Unlimited	650 ft.
Form-wound low voltage motors	Unlimited	Unlimited	650 ft.
Standard Motor Insulation Systems			
IRIS™ INSULATION SYSTEM	ULTIMATE SPIKE DEFENSE™		
All LEESON 3-Phase Motors 1HP and above	Lincoln Premium Efficient Motors		
All LEESON Premium Efficient Motors	Lincoln Inverter Duty Motors		
All LEESON Inverter Duty Motors	Lincoln CTAC® Motors		



Tech Information

Single Phase ODP Motors

Single Phase TEFC Motors

Single Phase C Face Motors

Three Phase ODP Motors

Three Phase TEFC Motors

Three Phase C Face Motors

Inverter Duty Motors

Severe Duty Motors

Inverter Duty Motors

Tech Information

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Severe Duty
Motors



- Ideally suited for IGBT power
- Inverter duty insulation system
- Over temperature protection
- Speedmaster® and CTAC® models – 2000 : 1 speed range
- Provisions for encoder mounting
- Lincoln Vector duty CTAC® models include 1024 ppr encoder
- Drip-proof and totally enclosed models available
- Precision balanced rotor assemblies
- Made in the U.S.A.
- 3-year warranty

Applications:

For use in constant torque (conveyors and machine tools) or variable torque (pumps and fans) variable speed applications within the stated speed range of the motor.



Inverter Duty Motors / Vector Duty Motors - 2000:1 Speed Range With Encoder mounting provisions

Features:

- Class H inverter rated insulation system
- Constant torque operation from 0 to base RPM rating with vector drives
- C Face with rigid base through 100 HP on LEESON models, Lincoln models through 5 HP
- TEBC designs utilize 3-phase blower motors
- Normally closed thermostats
- Cast iron, Steel and Aluminum frame construction - see Notes
- Provisions for Encoder feedback devices
- Precision balanced rotors
- UL recognized and CSA certified
- 3-year warranty

Three Phase - Totally Enclosed - Rigid Base & Rigid C Face

HP	SYN RPM 60 Hz	NEMA Frame	▼ Catalog Number	Stock	Model Number	App. Wgt. (lbs)	Voltage	F. L. Amps @ 230 V	Max. RPM	Service Factor	"C" Dim. (Inches)	Inverter speed range	♥ Notes
1/3	1800	56C	LM10336	✓	SRF4S0.33TC61Q20	26	230/460	1.6	4000	1.00	11.31	10 : 1	S, US, 13
1/2	1800	56C	LM24264	C/A	SRF4S0.5TC61Q20	24	230/460	2.4	4000	1.00	11.81	10 : 1	S, US, 13
	1200	56HC	LM10338	✓	SRF6S0.5TC61Q20	41	230/460	2.6	4000	1.00	12.32	10 : 1	S, US, 13
3/4	1800	56HC	LM10339	✓	SRF4S0.75TC61Q20	25	230/460	3.0	4000	1.00	11.82	10 : 1	S, US, 13
1	1800	56HC	LM10340	✓	SRF4S1TC61Q20	62	230/460	3.6	4000	1.00	12.32	10 : 1	S, US, 13
	1800	143TC	810548.00	✓	143THTN8037	61	230/460	3.0	5400	1.00	13.68	2000 : 1	C, US, 12
	1800	145TC	LM26359	✓	SSN4S1TC61Q10	62	230/460	4.0	5000	1.00	15.39	2000 : 1	S, US, 12
	1200	182TC	LM06103	✓	AAN6S1TC61Q10	78	230/460	3.6	4800	1.00	12.94	2000 : 1	A, US, 12
	900	184TC	LM06105	C/A	AAN8S1TC61Q10	100	230/460	5.0	4800	1.20	16.57	2000 : 1	A, US, 12
1 1/2	1800	145TC	810547.00	✓	145THTN8044	68	230/460	4.6	5400	1.00	14.68	2000 : 1	C, US, 12
	1800	145TC	LM26233	C/A	SSN4S1.5TC61Q10	65	230/460	4.8	5000	1.00	15.39	2000 : 1	S, US, 12
2	1800	145TC	810546.00	✓	145THTN8045	70	230/460	6.0	5400	1.00	14.68	2000 : 1	C, US, 12
	1800	182TC	LM06113	✓	AAN4S2TC61Q10	74	230/460	6.0	4800	1.00	15.57	2000 : 1	A, US, 12
3	1800	182TC	811320.00	✓	182THTS8051	110	230/460	8.0	5400	1.00	16.68	2000 : 1	C, US, 12
	1800	184TC	LM06119	✓	AAN4S3TC61Q10	94	230/460	8.4	4800	1.00	16.57	2000 : 1	A, US, 12
	1200	215TC	LM06121	C/A	AN5S3TC61Q10	135	230/460	12.0	4600	1.00	18.56	2000 : 1	A, US, 12
5	1800	184TC	811322.00	✓	184THTS8058	118	230/460	13.4	5400	1.00	17.69	2000 : 1	C, US, 12
	1800	213TC	LM06125	✓	AN4S5TC61Q10	115	230/460	15.6	4600	1.00	17.94	2000 : 1	A, US, 12
7 1/2	1800	213TC	810157.00	✓	213THTS8070	180	230/460	21.0	4200	1.00	20.56	2000 : 1	C, US, 12
10	1800	215TC	810140.00	✓	215THTS8070	290	230/460	26.0	4200	1.00	22.74	2000 : 1	C, US, 12

▼ LM Numbers are Lincoln Models

Note 12 - TENV

C/A - Check Availability

Specifications are subject to change without notice

♥ Note listing on inside back flap

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Single Phase
ODP Motors

Single Phase
TEFC Motors

Single Phase
C Face Motors

Three Phase
ODP Motors

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Inverter Duty
Motors

Severe Duty
Motors

Inverter Duty Motors

Inverter Duty Motors / Vector Duty Motors - 2000:1 Speed Range

With Encoder mounting provisions

Three Phase - Totally Enclosed - Rigid Base & Rigid C Face

HP	SYN RPM 60 Hz	NEMA Frame	▼ Catalog Number	Stock
15	1800	254TC	810066.00	✓
	1200	284TC	810068.00	✓
20	1800	256TC	810007.00	✓
	1200	286TC	810001.00	✓
25	1800	284TC	810011.00	C/A
	1200	324TC	810003.00	✓
30	1800	286TC	810015.00	✓
	1200	326TC	810005.00	✓
40	1800	324TC	810019.00	✓
	1200	364T	810096.00	✓
50	1800	326TC	810023.00	✓
	1200	365TC	810097.00	C/A
60	1800	364TC	810027.00	✓
	1200	404TC	810098.00	✓
75	1800	365TC	810031.00	✓
	1200	405TC	810099.00	C/A
100	1800	405TC	810087.00	C/A
	1200	444TC	811367.00	C/A
125	1800	444T	811369.00	C/A
	150	1800	445T	811371.00
1800		445T	LM03564	C/A
200	1800	445T	810503.00	C/A
	250	1800	449T	811516.00
300		1800	449T	811529.00
	350	1800	449T	811530.00

Model Number	App. Wgt. (lbs)	Voltage	F. L. Amps @ 230 V	Max. RPM	Service Factor	"C" Dim. (Inches)	Inverter speed range	♥Notes
254THTNA8060	320	230/460	39.0	4200	1.00	25.12	2000 : 1	C, US, 12
284THTPA7090	440	230/460	40.0	3600	1.00	37.48	2000 : 1	C, US, 11
256THTNA8070	435	230/460	52.0	4200	1.00	27.13	2000 : 1	C, US, 12
286THFPA8090	450	230/460	52.4	3600	1.00	37.48	2000 : 1	C, US, 11
284THFPA8060	438	230/460	65.0	3600	1.00	37.48	2000 : 1	C, US, 11
324THFPA8090	620	230/460	67.0	3600	1.00	40.41	2000 : 1	C, US, 11
286THFPA8040	520	230/460	74.0	4200	1.00	38.98	2000 : 1	C, US, 11
326THFPA8090	700	230/460	82.0	3600	1.00	41.91	2000 : 1	C, US, 11
324THFPA8050	620	230/460	100.0	3600	1.00	40.41	2000 : 1	C, US, 11
364THFS18079	975	230/460	104.0	2700	1.00	42.78	2000 : 1	C, US, 11
326THFPA8040	640	230/460	120.0	3600	1.00	41.91	2000 : 1	C, US, 11
365THFS8397	1029	230/460	180.0	2700	1.00	43.78	2000 : 1	C, US, 11
364THFS8059	975	230/460	147.0	2700	1.00	42.78	2000 : 1	C, US, 11
404THFS8378	1322	230/460	142.0	2700	1.00	46.72	2000 : 1	C, US, 11
365THFS8074	1050	230/460	180.0	2700	1.00	43.78	2000 : 1	C, US, 11
405THFS8386	1350	230/460	180.0	2700	1.00	49.28	2000 : 1	C, US, 11
405THFS8329	1400	230/460	230.0	2700	1.00	49.28	2000 : 1	C, US, 11
444THFN8389	2050	230/460	250.0	2700	1.00	52.72	2000 : 1	C, US, 11
444THFN8050	2000	460	138*	2700	1.00	52.72	2000 : 1	C, US, 11
445THFN8334	2321	460	170*	2700	1.00	54.72	2000 : 1	C, US, 11
SB4H150T64YQ10	1480	460	165*	3000	1.00	59.85	2000 : 1	S, US, 11
445THFN8335	2450	460	230*	2700	1.00	54.72	2000 : 1	C, US, 11
449THFS8328	3210	460	295*	2700	1.00	63.21	2000 : 1	C, US, 11
449THFS8329	3410	460	330*	2700	1.00	63.21	2000 : 1	C, US, 11
449THFS8330	3520	460	385*	2700	1.00	63.21	2000 : 1	C, US, 11

* Amps at 460 Volt

♥ Note listing on inside back flap

▼ LM Numbers are Lincoln Models

Note 11 - TEBC

Note 12 - TENV

C/A - Check Availability

Specifications are subject to change without notice

Tech Information

Single Phase ODP Motors

Single Phase TEFC Motors

Single Phase C Face Motors

Three Phase ODP Motors

Three Phase TEFC Motors

Three Phase C Face Motors

Inverter Duty Motors

Severe Duty Motors



Encoder Kits For Speedmaster® 81,000 Series 2000:1 Motors

Description	Enclosure	Frame	Brand/Model	PPR	Catalog Number
Encoders					
Modular Mount, 5-15 VDC, with EPIC connector	TENV	143-256T	Northstar SL56	1024	E175927.00
Shaft Mount, 5-26 VDC, with 10 pin connector	TENV	143-256T	Dynapar HS35	1024	E175928.00
Shaft Mount, 5-26 VDC, with 10 pin connector	TENV	143-256T	BEI HS35	1024	E175929.00
Shaft Mount, 5-26 VDC, with 10 pin connector	TENV	143-256T	Dynapar HS35	2048	E175930.00
Shaft Mount, 5-26 VDC, with 10 pin connector	TENV	143-256T	BEI HS35	2048	E175931.00
Modular Mount, 5-15 VDC (Encoder Conduit Box Required)	TEBC	284-449T	Northstar SL56	1024	E175921.00
Shaft Mount, 5-26 VDC (Encoder Conduit Box Required)	TEBC	284-449T	Dynapar HS35	1024	E175922.00
Shaft Mount, 5-26 VDC (Encoder Conduit Box Required)	TEBC	284-449T	BEI HS35	1024	E175923.00
Shaft Mount, 5-26 VDC (Encoder Conduit Box Required)	TEBC	284-449T	Dynapar HS35	2048	E175924.00
Shaft Mount, 5-26 VDC (Encoder Conduit Box Required)	TEBC	284-449T	BEI HS35	2048	E175925.00
Conduit Box Required for all TEBC Units	---	---	---	---	ECB175926.00

Shipped separately for field installation.

Tech Information

Single Phase
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Three Phase
ODP Motors

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Inverter Duty
Motors

Severe Duty
Motors



Inverter Duty Motors

Vector Duty Motors - 2000:1 Speed Range With 1024 ppr Encoder



Features:

- Inverter duty insulation system
- Constant HP range at 2x base speed 56 - 256T frames
- Constant HP range at 1.5x base speed 284T - 445T frames
- Includes 1024 ppr encoder with differential line driver
- Normally enclosed thermostats
- Steel and Aluminum frame construction - see Notes
- C Face designs through 10 HP
- Precision balanced rotors

Three Phase - Totally Enclosed - Rigid Base & Rigid C Face

HP	SYN RPM 60 Hz	NEMA Frame	▼ Catalog Number	Stock
1/3	1800	56C	LM10346	✓
1/2	1800	56C	LM10347	✓
3/4	1800	56HC	LM10349	✓
1	1800	56HC	LM10350	✓
	1800	145TC	LM26109	C/A
1.5	1800	145TC	LM26278	C/A
2	1800	182TC	LM03987	✓
3	1800	184TC	LM03995	✓
5	1800	213TC	LM04003	C/A
7.5	1800	215TC	LM31463	C/A
10	1800	256TC	LM30572	C/A
25	1800	284T	LM03189	C/A
30	1800	286T	LM03237	C/A
40	1800	324T	LM03285	C/A
50	1800	326T	LM03333	C/A
60	1800	364T	LM03377	C/A
75	1800	365T	LM03425	C/A
100	1800	405T	LM03473	C/A
125	1800	444T	LM03517	C/A
150	1800	445T	LM03565	C/A
200	1800	445T	LM03597	C/A

Model Number	App. Wgt. (lbs)	Voltage	F. L. Amps @ 230 V	Max. RPM	Service Factor	"C" Dim. (Inches)	Inverter speed range	♥Notes
SRN4S0.33TC61Q15	43	230/460	1.0	5000	1.00	14.47	2000 : 1	S, US, 12
SRN4S0.5TC61Q15	43	230/460	1.6	5000	1.00	14.47	2000 : 1	S, US, 12
SRN4S0.75TC61Q15	54	230/460	2.6	5000	1.00	15.97	2000 : 1	S, US, 12
SRN4S1TC61Q15	54	230/460	3.2	5000	1.00	15.97	2000 : 1	S, US, 12
SSN4S1TC61Q15	82	230/460	3.0	5000	1.00	16.03	2000 : 1	S, US, 12
SSN4S1.5TC61Q15	85	230/460	4.8	5000	1.00	17.03	2000 : 1	S, US, 12
AAN4S2TC61Q15	98	230/460	6.0	4800	1.00	18.34	2000 : 1	A, US, 12
AAN4S3TC61Q15	110	230/460	8.4	4800	1.00	19.34	2000 : 1	A, US, 12
AAN4S5TC61Q15	115	230/460	15.6	4600	1.00	21.14	2000 : 1	A, US, 12
AN4S7.5TC61Q15	155	230/460	21.0	4600	1.00	23.48	2000 : 1	A, US, 12
AN4S10TC61Q15	235	230/460	27.0	4400	1.00	—	2000 : 1	A, US, 12
SB4H25T61Q15	350	230/460	62.0	4200	1.00	40.69	2000 : 1	S, US, 11
SB6H30T61Q15	420	230/460	74.0	4200	1.00	—	2000 : 1	S, US, 11
SB4H40T61Q15	550	230/460	98.0	4000	1.00	43.41	2000 : 1	S, US, 11
SB4H50T61Q15	550	230/460	—	4000	1.00	—	2000 : 1	S, US, 11
SB4H60T61YQ15	690	230/460	—	3800	1.00	—	2000 : 1	S, US, 11
SB4P75T61YQ15	740	230/460	180.0	3800	1.00	49.29	2000 : 1	S, US, 11
SB4H100T61YQ15	1000	230/460	240.0	3600	1.00	53.23	2000 : 1	S, US, 11
SB4H125T64YQ15	1290	460	—	3000	1.00	—	2000 : 1	S, US, 11
SB4H150T64YQ15	1490	460	165*	3000	1.00	59.85	2000 : 1	S, US, 11
SB4H200T64YQ15	1500	460	—	3000	1.00	—	2000 : 1	S, US, 11

* Amps at 460 Volt

♥ Note listing on inside back flap

▼ LM Numbers are Lincoln Models

Note 11 - TEBC

Note 12 - TENV

C/A - Check Availability

Specifications are subject to change without notice

Inverter Duty Motors

Inverter Duty Motors - 4 :1 Speed Range - Totally Enclosed

Features:

- Inverter duty insulation system
- Constant HP range at 2x base speed 56 - 256T frames
- Constant HP range at 1.5x base speed 284T - 445T frames
- No mounting available for encoder devices
- Normally closed thermostats
- Steel and Aluminum frame construction - see Notes
- Precision balanced rotors



Three Phase - Totally Enclosed - Rigid Base

HP	SYN RPM 60 Hz	NEMA Frame	▼ Catalog Number	Stock
1/2	1800	56	LM22648	C/A
3/4	1800	56	LM22654	C/A
1	1800	56	LM22660	✓
	1800	143T	LM26097	C/A
1 1/2	1800	56H	LM22664	C/A
	1800	145T	LM26098	C/A
2	1800	145T	LM25991	C/A
3	3600	182T	LM21189	C/A
	1800	182T	LM21190	✓
5	3600	184T	LM21192	C/A
	1800	184T	LM21193	✓
7 1/2	3600	213T	LM21195	C/A
	1800	213T	LM21196	✓
10	3600	215T	LM21198	C/A
	1800	215T	LM21199	✓
15	3600	254T	LM21201	✓
	1800	254T	LM21202	✓
20	3600	256T	LM21204	C/A
	1800	256T	LM21205	✓
25	1800	284T	LM21208	C/A
30	1800	286T	LM21211	✓
40	1800	324T	LM21214	✓
50	1800	326T	LM21217	✓
60	1800	364T	LM21220	✓
75	1800	365T	LM21223	C/A
100	1800	405T	LM21227	C/A
125	1800	444T	LM21230	C/A
150	1800	445T	LM21233	C/A
200	1800	445T	LM21236	C/A
250	1800	447T	LM21238	C/A
300	1800	449T	LM21239	C/A
350	1800	449T	LM21244	C/A

Model Number	App. Wgt. (lbs)	Voltage	F. L. Amps @ 230 V	Max. RPM	Service Factor	% F.L. Eff.	"C" Dim. (Inches)	Inverter speed range	♥ Notes
SRF4S0.5T61Q40	28	230/460	2.4	4000	1.00	74.0	11.82	4:1	S, US
SRF4S0.75T61Q40	28	230/460	3.0	4000	1.00	77.0	11.82	4:1	S, US
SRF4S1T61Q40	28	230/460	3.6	4000	1.00	78.5	12.32	4:1	S, US
SSF4P1T61Q40	46	230/460	3.0	4000	1.00	82.5	12.87	4:1	S, US
SRF4S1.5T61Q40	28	230/460	5.0	4000	1.00	80.0	13.52	4:1	S, US
SSF4P1.5T61Q40	51	230/460	5.0	4000	1.00	84.0	13.87	4:1	S, US
SSF4P2T61Q40	51	230/460	6.0	4000	1.00	84.0	14.37	4:1	S, US
AAF2P3T61Q40	83	230/460	7.4	4000	1.00	85.5	14.19	4:1	A, US
AAF4P3T61Q40	83	230/460	8.4	4000	1.00	87.5	14.19	4:1	A, US
AAF2P5T61Q40	92	230/460	12.4	4000	1.00	87.5	15.19	4:1	A, US
AAF4P5T61Q40	92	230/460	13.4	4000	1.00	87.5	16.19	4:1	A, US
AF2P7.5T61Q40	127	230/460	18.0	4600	1.00	88.5	18.30	4:1	A, US
AF4P7.5T61Q40	127	230/460	20.0	4600	1.00	89.5	17.20	4:1	A, US
AF2P10T61Q40	138	230/460	24.0	4600	1.00	89.5	18.25	4:1	A, US
AF4P10T61Q40	138	230/460	25.4	4600	1.00	89.5	18.70	4:1	A, US
AAF2P15T61Q40	209	230/460	35.0	4400	1.00	90.2	23.40	4:1	A, US
AF4P15T61Q40	209	230/460	39.0	4400	1.00	91.0	23.40	4:1	A, US
AF2P20T61Q40	236	230/460	47.0	4400	1.00	90.2	26.10	4:1	A, US
AF4P20T61Q40	236	230/460	50.0	4400	1.00	91.0	25.15	4:1	A, US
AF4P25T61YQ40	363	230/460	66.0	4200	1.00	92.4	26.62	4:1	A, US
AF4P30T61YQ40	408	230/460	76.0	4200	1.00	92.4	28.12	4:1	A, US
SF4P40T61YQ40	504	230/460	106.0	4000	1.00	93.0	28.50	4:1	S, US
SF4P50T61YQ40	558	230/460	129.0	4000	1.00	93.0	30.00	4:1	S, US
SF4P60T61YQ40	765	230/460	145.0	3800	1.00	93.6	31.90	4:1	S, US
SF4P75T61YQ40	822	230/460	187.0	3800	1.00	94.1	32.90	4:1	S, US
SF4P100T61YQ40	1002	230/460	244.0	3600	1.00	94.5	38.40	4:1	S, US
SF4P125T64YQ40	1351	460	146*	3000	1.00	94.5	41.58	4:1	S, US
SF4P150T64YQ40	1504	460	168*	3000	1.00	95.0	43.58	4:1	S, US
SF4P200T64YQ40	1504	460	228*	3000	1.00	95.0	43.58	4:1	S, US
SF4P250T64YQ40	1812	460	283*	2800	1.00	95.0	47.08	4:1	S, US
SF4P300T64YQ40	2315	460	349*	2800	1.00	95.4	52.08	4:1	S, US
SF4P350T64YQ40	2185	460	395*	2800	1.00	95.4	52.08	4:1	S, US

▼ LM Numbers are Lincoln Models

♥ Note listing on inside back flap

C/A - Check Availability

Specifications are subject to change without notice



Tech Information

Single Phase ODP Motors

Single Phase TEFC Motors

Single Phase C Face Motors

Three Phase ODP Motors

Three Phase TEFC Motors

Three Phase C Face Motors

Inverter Duty Motors

Severe Duty Motors

Inverter Duty Motors

Inverter Duty Motors - 4 :1 Speed Range - Totally Enclosed

Three Phase - Totally Enclosed - Rigid C Face

HP	SYN RPM 60 Hz	NEMA Frame	▼ Catalog Number	Stock
1/3	1800	56C	LM22645	✓
1/2	1800	56C	LM22649	✓
3/4	3600	56C	LM22653	C/A
	1800	56C	LM22655	✓
	1200	56C	LM22657	C/A
1	3600	56C	LM22659	C/A
	1800	56C	LM22661	✓
	1800	143TC	LM26081	C/A
	1200	145TC	LM26323	C/A
1 1/2	1800	56HC	LM22665	C/A
	1800	145TC	LM26008	C/A
2	1800	145TC	LM25962	✓
	3600	182TC	LM22826	C/A
3	1800	182TC	LM22827	✓
	1800	184TC	LM22830	✓
7 1/2	1800	213TC	LM22833	C/A
10	1800	215TC	LM22836	C/A
15	1800	254TC	LM22839	✓
20	1800	256TC	LM22841	✓

Model Number	App. Wgt. (lbs)	Voltage	F. L. Amps @ 230 V	Max. RPM	Service Factor	% F.L. Eff.	"C" Dim. (Inches)	Inverter speed range	♥Notes
SRF4S0.33TC61Q40	33	230/460	1.6	4000	1.00	72.0	11.31	4:1	S, US
SRF4S0.5TC61Q40	33	230/460	2.4	4000	1.00	74.0	11.81	4:1	S, US
SRF2S0.75TC61Q40	33	230/460	3.4	4000	1.00	74.0	11.81	4:1	S, US
SRF4S0.75TC61Q40	33	230/460	3.0	4000	1.00	77.0	11.81	4:1	S, US
SRF6S0.75TC61Q40	28	230/460	3.4	4000	1.00	72.0	12.81	4:1	S, US
SRF2S1TC61Q40	33	230/460	3.7	4000	1.00	75.5	11.81	4:1	S, US
SRF4S1TC61Q40	28	230/460	3.0	4000	1.00	78.5	11.81	4:1	S, US
SSF4P1TC61Q40	52	230/460	3.0	4000	1.00	82.5	12.87	4:1	S, US
SSF6P1TC61Q40	57	230/460	3.8	4000	1.00	80.0	14.87	4:1	S, US
SRF4S1.5TC61Q40	36	230/460	5.0	4000	1.00	80.0	13.32	4:1	S, US
SSF4P1.5TC61Q40	57	230/460	4.8	4000	1.00	84.0	13.87	4:1	S, US
SSF4P2TC61Q40	57	230/460	6.0	4000	1.00	84.0	14.37	4:1	S, US
AAF2P3TC61Q40	95	230/460	7.4	4000	1.00	85.5	14.83	4:1	A, US
AAF4P3TC61Q40	95	230/460	8.4	4000	1.00	87.5	14.83	4:1	A, US
AAF4P5TC61Q40	104	230/460	13.4	4000	1.00	87.5	16.83	4:1	A, US
AAF4P7.5TC61Q40	138	230/460	20.0	4600	1.00	89.5	17.95	4:1	A, US
AF4P10TC61Q40	149	230/460	25.4	4600	1.00	89.5	19.45	4:1	A, US
AF4P15TC61Q40	221	230/460	39.0	4400	1.00	91.0	23.40	4:1	A, US
AF4P20TC61Q40	248	230/460	50.0	4400	1.00	91.0	25.15	4:1	A, US

▼ LM Numbers are Lincoln Models

♥ Note listing on inside back flap

C/A - Check Availability

Specifications are subject to change without notice

Single Phase
ODP MotorsSingle Phase
TEFC MotorsSingle Phase
C Face MotorsThree Phase
ODP MotorsThree Phase
TEFC MotorsThree Phase
C Face MotorsInverter Duty
MotorsSevere Duty
Motors

Features:

- Variable torque speed range with open loop drive of 0-60 Hz
- Constant horsepower speed range of 2x base speed
- Ultimate Spike Defense™ Insulation System
- 1.00 service factor on PWM waveform,
- 1.15 service factor or better on sine-wave power.
- Precision dynamic balanced rotor assembly
- Thermal overload protection (Class F thermostats)

Three Phase - Drip-Proof - Rigid Base

HP	SYN RPM 60 Hz	NEMA Frame	▼ Catalog Number	Stock	Model Number	App. Wgt. (lbs)	Voltage	F. L. Amps @ 230 V	Max. RPM	Service Factor	% F.L. Eff.	"C" Dim. (Inches)	Inverter speed range	♥ Notes
1	1800	143T	LM21148	C/A	SSD4P1T61Q40	55	230/460	3.1	5000	1.00	82.5	12.49	10:01	S, US
1 1/2	1800	145T	LM21151	C/A	SSD4P1.5T61Q40	68	230/460	4.4	5000	1.00	84.0	12.49	10:01	S, US
2	1800	145T	LM21153	✓	SSD4P2T61Q40	68	230/460	5.8	5000	1.00	84.0	12.49	10:01	S, US
3	1800	182T	LM21157	C/A	SSD4P3T61Q40	82	230/460	8.6	4800	1.00	86.5	13.72	10:01	S, US
5	1800	184T	LM21159	✓	SSD4P5T61Q40	71	230/460	13.2	4800	1.00	87.5	13.19	10:01	S, US
7 1/2	1800	213T	LM21162	C/A	SSD4P7.5T61Q40	141	230/460	19.4	4600	1.00	88.5	17.29	10:01	S, US
10	1800	215T	LM21165	✓	SSD4P10T61Q40	168	230/460	25.0	4600	1.00	89.5	17.29	10:01	S, US
15	1800	254T	LM21168	✓	SSD4P15T61Q40	245	230/460	41.0	4400	1.00	91.0	22.32	10:01	S, US
20	1800	256T	LM21171	✓	SSD4P20T61Q40	255	230/460	52.0	4400	1.00	91.0	22.32	10:01	S, US
25	1800	284T	LM29579	✓	CCD4P25T61YQ40	350	230/460	61.0	4000	1.00	91.7	23.49	10:01	C, US
30	1800	286T	LM29936	✓	CCD4P30T61YQ40	400	230/460	72.0	4000	1.00	92.4	24.99	10:01	C, US
40	1800	324T	LM21180	✓	SD4P40T61YQ40	469	230/460	106.0	4000	1.00	93.0	25.82	10:01	S, US
50	1800	326T	LM21118	C/A	SD4P50T61YQ40	522	230/460	130.0	4000	1.00	93.0	27.32	10:01	S, US
60	1800	364T	LM21121	C/A	SD4P60T61YQ40	595	230/460	145.0	3600	1.00	94.0	28.40	10:01	S, US
75	1800	365T	LM21124	C/A	SD4P75T61YQ40	763	230/460	176.0	3800	1.00	94.1	32.90	10:01	S, US
100	1800	404T	LM21127	✓	SD4P100T61YQ40	882	230/460	244.0	3600	1.00	94.1	31.81	10:01	S, US
125	1800	405T	LM30727	✓	SD4P125T61YQ40	958	230/460	304.0	3600	1.00	94.5	33.31	10:01	S, US

▼ LM Numbers are Lincoln Models

♥ Note listing on inside back flap

C/A - Check Availability

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Tech Information

Single Phase
ODP Motors

Single Phase
TEFC Motors

Single Phase
C Face Motors

Three Phase
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Three Phase
TEFC Motors

Three Phase
C Face Motors

Inverter Duty
Motors

Severe Duty
Motors

Inverter Duty Motors

SUB-FHP MOTORS - Inverter Rated - Three Phase

Features:

- Designed with the exclusive Inverter Rated Insulation System (IRIS)
- Provides superior protection against voltage spikes induced by variable frequency drives
- Double shielded motor ball bearings
- Needle bearings in the parallel shaft gearboxes
- Steel conduit box provided as standard
- Finished in high gloss hardened black enamel paint

Application Notes:

- Designed with high temperature insulation (Class F) to prevent overheating when operated with a PWM inverter down to a 10:1 speed range from the printed motor's speed range

Three Phase - Totally Enclosed - Rigid Base - C Face With Base

HP	SYN RPM 60 Hz	Frame	Catalog Number	Stock
1/15	1725	38	M1140171.00	✓
1/6	1725	38	M1140173.00	C/A
1/4	1725	38	M1140172.00	✓

Model Number	Voltage	F. L. Amps @ 230 V	♥Notes
CM38T17NK1	230	0.4	S, US, 12
CM38T17NK2	230	0.7	S, US, 12
CM38T17FK3	230	1.1	S, US, 13

C/A - Check Availability

♥ Note listing on inside back flap

Note 12 - TENV

Specifications are subject to change without notice

38 Frame NEMA C Face With Base Dimensions

Catalog Number	AG	P	U	AH	BB	AJ	TAP	R	AK	BB	D	BA	E	F	H
M1140171.00	5.14	3.85	0.5	1.63	1	3.75	1/4-20	4.3	3.0	0.13	3.0	2.50	2.125	1.375	11/32 Slot
M1140173.00	6.14	3.85	0.5	1.63	1	3.75	1/4-20	4.3	3.0	0.13	3.0	2.50	2.125	1.375	11/32 Slot
M1140172.00	7.56	4.43	0.5	1.63	1	3.75	1/4-20	4.3	3.0	0.13	3.0	2.50	2.125	1.375	11/32 Slot

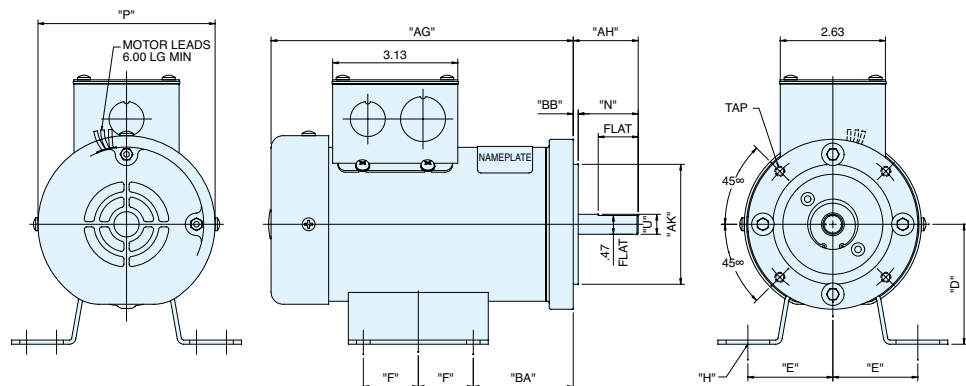
Specifications are subject to change without notice

AC 38 48C

Both motors only and gearmotors will have inverter rated printed on the nameplate.

UL and CSA recognition for both motors only and gearmotors.

ALL DIMENSIONS IN INCHES

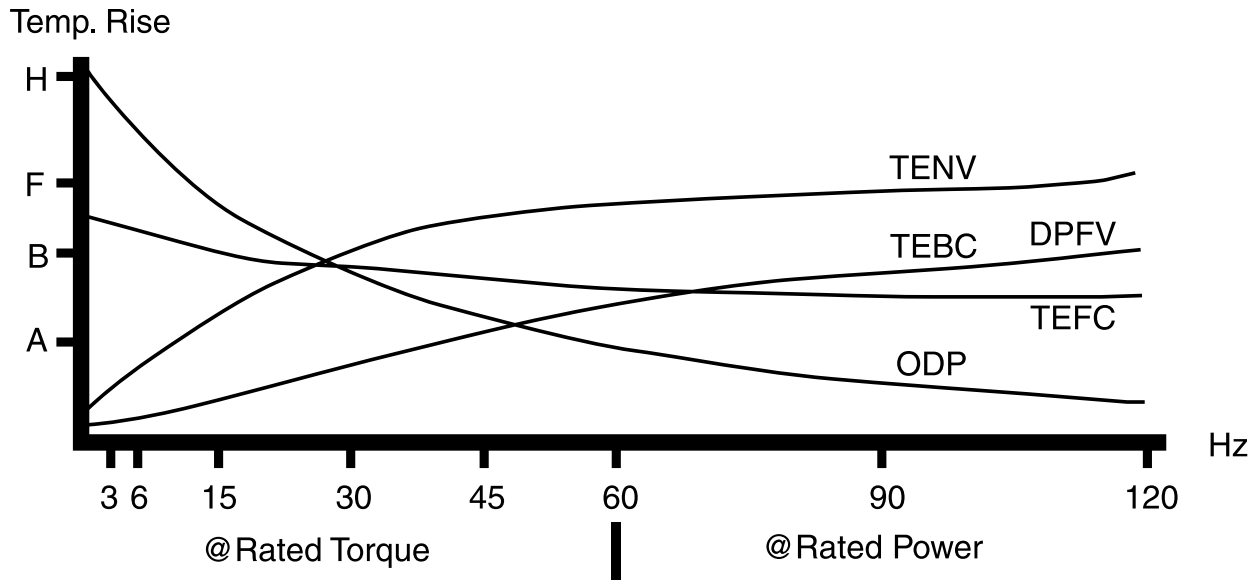


Other Application Considerations -

For proper selection, the following should be considered:

- Horsepower or torque requirements at various speeds
- Desired speed range of the load and motor
- Acceleration and deceleration rate requirements of the process being controlled
- Starting requirements including the frequency of starting and a description of the load (reflected inertia at the motor, load torque during starting)
- Whether the application is a continuous process or duty cycle of starts, stops and speed changes
- A general description of the type of application including the environment in which the VFD system components must operate (determines motor enclosure and/or explosion proof classification)
- Description of the available electrical power supply and wiring
- Special performance requirements, if any
- Whether the drive will be configured with a by-pass circuit. In case of its deployment, the motor will operate like its fixed speed counterpart and may require a NEMA B design which limits in-rush current, or selection of a larger motor starter or other protective circuitry
- Load sharing
- Mounting and other mechanical considerations

Typical Temperature Rise Of Various Enclosures



Tech Information

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Single Phase TEFC Motors

Single Phase C Face Motors

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