

**SPEEDMASTER®  
INVERTER-DUTY/  
VECTOR DUTY MOTORS**  
2000:1 CONSTANT TORQUE



**Features:**

- Class H inverter-rated IRIS™ insulation system
- Constant torque operation from 0 to base RPM rating on Vector Drives
- Constant HP operation to twice base RPM rating for 143T-256T frame, 1.5 x base RPM for all other sizes
- Designed for optimum performance with IGBT inverters – not for across-the-line starting
- C-face with rigid base through 100HP
- Normally closed thermostats (one per phase)
- Continuous duty at 40° C ambient
- 1.0 Service Factor (Class “B” rise on TEBC motors)
- Premium quality, cast iron frame and endbells
- 284T and larger are blower-cooled with a separately powered three-phase blower motor to provide added cooling at low speeds
- Ball bearings (Roller bearings available 360-frame and larger)
- Field convertible to F2 mounting
- Encoder provisions included on opposite drive end (See Encoder Kits this page)
- UL Recognized and CSA Certified
- Three-year warranty
- Meets NEMA MG1, parts 30 and 31

**Applications:**

Designed for inverter or vector applications where up to a 2000:1 constant torque speed range is required. Typical uses include: material handling, machine tools, conveyors, crane and hoist, metal processing, test stands, pumps, compressors, textile processing, and other industrial machinery installed in dusty or dirty environments.

**ENCODER KITS\* FOR SPEEDMASTER® 2000:1 MOTORS**

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

\* Shipped separately for field installation.

**THREE PHASE • TOTALLY ENCLOSED • RIGID BASE**

HP	SYN RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps 230V	RPM Max.†	“C” Dim. (Inches)
1	1800	143TC	<b>810548.00●</b>	61	230/460	3.0	5400	13.68
1½	1800	145TC	<b>810547.00●</b>	68	230/460	4.6	5400	14.68
2	1800	145TC	<b>810546.00●</b>	70	230/460	6.0	5400	14.68
3	1800	182TC	<b>811320.00●</b>	110	230/460	8.0	5400	16.68
5	1800	184TC	<b>811322.00●</b>	118	230/460	13.4	5400	17.69
7½	1800	213TC	<b>810157.00●</b>	180	230/460	21.0	4200	20.56
10	1800	215TC	<b>810140.00●</b>	290	230/460	26.0	4200	22.74
15	1800	254TC	<b>810066.00●</b>	320	230/460	39.0	4200	25.12
		1200	284TC	<b>810068.00 A</b>	440	230/460	40.0	3600
20	1800	256TC	<b>810007.00●</b>	435	230/460	52.0	4200	27.13
		1200	286TC	<b>810001.00 A</b>	450	230/460	52.4	3600
25	1800	284TC	<b>810011.00 A</b>	438	230/460	65.0	3600	37.48
		1200	324TC	<b>810003.00</b>	620	230/460	67.0	3600
30	1800	286TC	<b>810015.00</b>	520	230/460	74.0	4200	38.98
		1200	326TC	<b>810005.00</b>	700	230/460	82.0	3600
40	1800	324TC	<b>810019.00 A</b>	620	230/460	100.0	3600	40.41
		1200	364TC	<b>810096.00</b>	975	230/460	104.0	2700
50	1800	326TC	<b>810023.00 A</b>	640	230/460	120.0	3600	41.91
		1200	365TC	<b>810097.00</b>	1029	230/460	180.0	2700
60	1800	364TC	<b>810027.00</b>	975	230/460	147.0	2700	42.78
		1200	404TC	<b>810098.00 A</b>	1322	230/460	142.0	2700
75	1800	365TC	<b>810031.00</b>	1050	230/460	180.0	2700	43.78
		1200	405TC	<b>810099.00 A</b>	1350	230/460	180.0	2700
100	1800	405TC	<b>810087.00</b>	1400	230/460	230.0	2700	49.28
		1200	444TC	<b>811367.00+</b>	2050	230/460	250.0	2700
125	1800	444T	<b>811369.00+</b>	2000	460	138.0①	2700	52.72
150	1800	445T	<b>811371.00+A</b>	2321	460	170.0①	2700	54.72
200	1800	445T	<b>810503.00+A</b>	2450	460	230.0①	2700	54.72
250	1800	449T	<b>811516.00+A</b>	3210	460	295.0①	2700	63.21
300	1800	449T	<b>811529.00+A</b>	3410	460	330.0①	2700	63.21
350	1800	449T	<b>811530.00+A</b>	3520	460	385.0①	2700	63.21

- These motors are Totally Enclosed, Non-Ventilated (TENV)—Others are Totally Enclosed Blower-Cooled (TEBC).
- † Contact LEESON for applications requiring higher speeds.
- + Contact LEESON for production leadtime on these items.
- ① Amps at 460 volts
- A Subject to Availability.

**SHADED FRAME INDICATES CAST IRON CONSTRUCTION**

Specifications are subject to change without notice



# TOTALLY ENCLOSED • 0 TO 60 HZ CONSTANT TORQUE INVERTER DUTY CTAC®

230/460 & 460 VOLTS • 3-PHASE  
FOOT MOUNT & C-FACE  
1/3 TO 200 HP

### Features:

- 2000:1 constant torque speed range of 0-60 Hz at continuous duty (range on RF models is 6-60Hz).
- Variable torque speed range of 0-60 Hz.
- Constant horsepower speed range of 2x base speed (56-256T frames) or 1.5x base speed\* (284T-445T frames).
- Wider speed ranges possible on intermittent duty
- Ultimate Spike Defense™ Insulation System
- Ideally suited for IGBT power
- 1.00 SF, 40°C ambient on PWM waveform
- C-Face standard on frames 56-256T
- Precision dynamic balanced rotor assembly
- Over temperature protection (Class F thermostat)
- Provision for mounting feedback device - Q10 models
- TEBC - 3 phase blower motor standard
- Warranty on CTAC motor, 42 months from date of manufacture and 36 months from date of installation which ever period expires first.

Warranty on TEBC blower motor 30 months from date of manufacture and 24 months from date of installation which ever period expires first.

- Made In U.S.A.

### Applications:

Suitable for use in extruders, conveyors, machine tools and other process industries with constant torque, variable speed loads.

In a very small percentage of installations, bearing currents can develop in motors operated by PWM-based adjustable-speed drives. Contact your local sales office to review ways of eliminating bearing currents.

\* Actual speed not to exceed "RPM MAX" listed for specific motor.



## C-FACE WITH FEET (56-256T)

HP	SYN RPM @ 60 Hz	RPM Max	Frame	Enclosure	Volts	Model Number	Product Number	Approx Shpg Wght (lbs)
1/3	1800	4000	56C	TEFC	230/460	SRF4S0.33TC61Q20	LM10336	26
1/2	1800	4000	56C	TEFC	230/460	SRF4S0.5TC61Q20	LM24264	28
	1200	4000	56HC	TEFC	230/460	SRF6S0.5TC61Q20	LM10338	41
3/4	1800	4000	56HC	TEFC	230/460	SRF4S0.75TC61Q20	LM10339	36
1	1800	4000	56HC	TEFC	230/460	SRF4S1TC61Q20	LM10340	41
	1800	5000	145TC	TENV	230/460	SSN4S1TC61Q10	LM26359	62
	1200	4800	182TC	TENV	230/460	AAN6S1TC61Q10	LM06103	78
	900	4800	184TC	TENV	230/460	AAN8S1TC61Q10	LM06105	90
1 1/2	1800	5000	145TC	TENV	230/460	SSN4S1.5TC61Q10	LM26233	65
	1200	4800	184TC	TENV	230/460	AAN6S1.5TC61Q10	LM06109	90
	900	4600	213TC	TENV	230/460	AN8S1.5TC61Q10	LM06111	121
2	1800	4800	182TC	TENV	230/460	AAN4S2TC61Q10	LM06113	74
	1200	4600	213TC	TENV	230/460	AN6S2TC61Q10	LM06115	121
	900	4600	215TC	TENV	230/460	AN8S2TC61Q10	LM06117	121

Product numbers in red are STOCK items.

Specifications are subject to change without notice

**TOTALLY ENCLOSED • 0 TO 60 HZ CONSTANT TORQUE  
INVERTER DUTY CTAC®**



**230/460 & 460 VOLTS • 3-PHASE  
FOOT MOUNT & C-FACE  
1/3 TO 200 HP**

AC MOTORS

**C-FACE WITH FEET (56-256T) & FOOT MOUNT (284T-445T)**

HP	SYN RPM @ 60 Hz	RPM Max	Frame	Enclosure	Volts	Model Number	Product Number	Approx Shpg Wght (lbs)
3	1800	4800	184TC	TENV	230/460	AAN4S3TC61Q10	LM06119	86
	1200	4600	215TC	TENV	230/460	AN6S3TC61Q10	LM06121	135
	900	4400	254TC	TENV	230/460	AN8S3TC61Q10	LM06123	186
5	1800	4600	213TC	TENV	230/460	AN4S5TC61Q10	LM06125	115
	1200	4400	254TC	TENV	230/460	AN6S5TC61Q10	LM06127	200
	900	4400	256TC	TENV	230/460	AN8S5TC61Q10	LM06129	219
7 1/2	1800	4600	215TC	TENV	230/460	AN4S7.5TC61Q10	LM06131	115
	1200	4400	256TC	TENV	230/460	AN6S7.5TC61Q10	LM06133	219
10	1800	4400	256TC	TENV	230/460	AN4S10TC61Q10	LM06135	211
15	1200	4200	284T	TEBC	230/460	SB6H15T61Q10	LM03140	350
20	1200	4200	286T	TEBC	230/460	SB6H20T61Q10	LM03156	420
25	1800	4200	284T	TEBC	230/460	SB4H25T61Q10	LM03188	350
	1200	4000	324T	TEBC	230/460	SB6H25T61Q10	LM03204	490
30	1800	4200	286T	TEBC	230/460	SB4H30T61Q10	LM03236	420
	1200	4000	326T	TEBC	230/460	SB6H30T61Q10	LM03252	550
40	1800	4000	324T	TEBC	230/460	SB4H40T61Q10	LM03284	420
	1200	3800	364T	TEBC	230/460	SB6H40T61YQ10	LM03300	670
50	1800	4000	326T	TEBC	230/460	SB4H50T61Q10	LM03332	490
	1200	3800	365T	TEBC	230/460	SB6H50T61YQ10	LM03348	740
60	1800	3800	364T	TEBC	230/460	SB4H60T61YQ10	LM03376	670
	1200	3600	404T	TEBC	230/460	SB6H60T61YQ10	LM03396	880
75	1800	3800	365T	TEBC	230/460	SB4H75T61YQ10	LM03424	740
	1200	3600	405T	TEBC	230/460	SB6H75T61YQ10	LM03444	1000
100	1800	3600	405T	TEBC	230/460	SB4H100T61YQ10	LM03472	1000
	1200	3000	444T	TEBC	460	SB6H100T64YQ10	LM03490	1290
125	1800	3000	444T	TEBC	460	SB4H125T64YQ10	LM03516	1290
	1200	3000	445T	TEBC	460	SB6H125T64YQ10	LM03536	1480
150	1800	3000	445T	TEBC	460	SB4H150T64YQ10	LM03564	1480
200	1800	3000	445T	TEBC	460	SB4H200T64YQ10	LM03596	1480

Product numbers in red are STOCK items.

Specifications are subject to change without notice

# TOTALLY ENCLOSED • 0 TO 60 HZ CONSTANT TORQUE VECTOR DUTY CTAC®

FOOT MOUNT & C-FACE  
1/3 TO 200 HP

**Features:**

- 2000:1 constant torque speed range of 0-60 Hz at continuous duty with closed-loop drive.
- Variable torque speed range of 0-60 Hz.
- Constant horsepower speed range of 2x base speed (56-256T frames) or 1.5x base speed\* (284T-445T frames).
- Ultimate Spike Defense™ Insulation System
- Ideally suited for IGBT power
- 1.00 SF, 40°C ambient on PWM waveform
- C-Face standard on frames 56-256T
- Precision dynamic balanced rotor assembly
- Over temperature protection (Class F thermostat)
- 1024 ppr encoder with differential line driver
- Separate terminal box or conduit with terminal block for feedback termination
- TEBC – 3 phase blower motor standard
- Warranty: (CTAC motor) 42 months from date of manufacture and 36 months from date of installation which ever period expires first. Feedback device and blower motor (TEBC) 30 months from date of manufacture and 24 months from date of installation which ever period expires first.
- Made In U.S.A.



**Applications:**

For use in demanding industrial applications where premium construction and performance are required. Suitable for use in extruders, conveyors, machine tools and other process industries with constant torque, variable speed loads.

In a very small percentage of installations, bearing currents can develop in motors operated by PWM-based adjustable-speed drives. Contact your local sales office to review ways of eliminating bearing currents.

\* Actual speed not to exceed "RPM MAX" listed for specific motor.

**C-FACE WITH FEET (56-256T)**

HP	SYN RPM @ 60 Hz	RPM Max	Frame	Enclosure	Volts	Model Number	Product Number	Approx Shpg Wght (lbs)
1/3	1800	5000	56C	TENV	230/460	SRN4S0.33TC61Q15	<b>LM10346</b>	43
1/2	1800	5000	56C	TENV	230/460	SRN4S0.5TC61Q15	<b>LM10347</b>	43
	1200	5000	56HC	TENV	230/460	SRN6S0.5TC61Q15	<b>LM10348</b>	43
3/4	1800	5000	56HC	TENV	230/460	SRN4S0.75TC61Q15	<b>LM10349</b>	54
1	1800	5000	56HC	TENV	230/460	SRN4S1TC61Q15	<b>LM10350</b>	54
	1800	5000	145TC	TENV	230/460	SSN4S1TC61Q15	<b>LM26109</b>	82
	1200	4800	182TC	TENV	230/460	AAN6S1TC61Q15	<b>LM03973</b>	98
	900	4800	184TC	TENV	230/460	AAN8S1TC61Q15	<b>LM03975</b>	110
1 1/2	1800	5000	145TC	TENV	230/460	SSN4S1.5TC61Q15	<b>LM26278</b>	85
	1200	4800	184TC	TENV	230/460	AAN6S1.5TC61Q15	<b>LM03981</b>	110
	900	4600	213TC	TENV	230/460	AN8S1.5TC61Q15	<b>LM03983</b>	141
2	1800	4800	182TC	TENV	230/460	AAN4S2TC61Q15	<b>LM03987</b>	98
	1200	4600	213TC	TENV	230/460	AN6S2TC61Q15	<b>LM03989</b>	141
	900	4600	215TC	TENV	230/460	AAN8S2TC61Q15	<b>LM03991</b>	141

Product numbers in red are STOCK items.

Product numbers in red are STOCK items.

Specifications are subject to change without notice

**TOTALLY ENCLOSED • 0 TO 60 HZ CONSTANT TORQUE  
VECTOR DUTY CTAC®**



**FOOT MOUNT & C-FACE  
1/3 TO 200 HP**

AC MOTORS

**C-FACE WITH FEET (56-256T) & FOOT MOUNT (284T-445T)**

HP	SYN RPM @ 60 Hz	RPM Max	Frame	Enclosure	Volts	Model Number	Product Number	Approx Shpg Wght (lbs)
3	1800	4800	184TC	TENV	230/460	AAN4S3TC61Q15	LM03995	110
	1200	4600	215TC	TENV	230/460	AN6S3TC61Q15	LM03997	155
	900	4400	254TC	TENV	230/460	AN8S3TC61Q15	LM03999	206
5	1800	4600	213TC	TENV	230/460	AAN4S5TC61Q15	LM04003	115
	1200	4400	254TC	TENV	230/460	AN6S5TC61Q15	LM04005	220
	900	4400	256TC	TENV	230/460	AN8S5TC61Q15	LM04007	239
7 1/2	1800	4600	215TC	TENV	230/460	AN4S7.5TC61Q15	LM31463	155
	1200	4400	256TC	TENV	230/460	AN6S7.5TC61Q15	LM04013	239
10	1800	4400	256TC	TENV	230/460	AN4S10TC61Q15	LM30572	235
15	1200	4200	284T	TEBC	230/460	CCB6S15T61Q15	LM31961	490
20	1200	4200	286T	TEBC	230/460	SB6H20T61Q15	LM03157	420
25	1800	4200	284T	TEBC	230/460	SB4H25T61Q15	LM03189	350
	1200	4000	324T	TEBC	230/460	SB6H25T61Q15	LM03205	490
30	1800	4200	286T	TEBC	230/460	SB4H30T61Q15	LM03237	420
	1200	4000	326T	TEBC	230/460	SB6H30T61Q15	LM03253	550
40	1800	4000	324T	TEBC	230/460	SB4H40T61Q15	LM03285	550
	1200	3800	364T	TEBC	230/460	SB6H40T61Q15	LM03301	670
50	1800	4000	326T	TEBC	230/460	SB4H50T61Q15	LM03333	550
	1200	3800	365T	TEBC	230/460	SB6H50T61YQ15	LM03349	740
60	1800	3800	364T	TEBC	230/460	SB4H60T61YQ15	LM03377	690
	1200	3600	404T	TEBC	230/460	SB6H60T61YQ15	LM03397	1000
75	1800	3800	365T	TEBC	230/460	SB4P75T61YQ15	LM03425	740
	1200	3600	405T	TEBC	230/460	SB6H75T61YQ15	LM03445	1000
100	1800	3600	405T	TEBC	230/460	SB4H100T61YQ15	LM03473	1000
	1200	3000	444T	TEBC	460	SB6H100T64YQ15	LM03491	1290
125	1800	3000	444T	TEBC	460	SB4H125T64YQ15	LM03517	1290
	1200	3000	445T	TEBC	460	SB6H125T64YQ15	LM03537	1480
150	1800	3000	445T	TEBC	460	SB4H150T64YQ15	LM03565	1490
200	1800	3000	445T	TEBC	460	SB4H200T64YQ15	LM03597	1500

Product numbers in red are STOCK items.

Specifications are subject to change without notice