

### TWO-WINDING VARIABLE TORQUE PSC TYPE FOR SHAFT MOUNTED FAN APPLICATIONS

These fan and blower duty motors are designed for dependable, *energy saving* performance in applications where the fan is mounted on the shaft of the motor. The permanent split capacitor design does not require a centrifugal switch, resulting in higher reliability than on other types of single phase motors. This design is also more energy efficient and less expensive to operate.



These motors may be operated at listed speed or two speed operation may be achieved by using the proper auxiliary switch. They are suitable for variable speed by adjusting the voltage to the motor using a variable voltage control.

Overload protected with a UL and CSA recognized automatic reset protector. Grounding provisions. Totally enclosed, dust tight design, with resilient mounting for quiet operation. Lubricated with Exxon POLYREX® EM high temperature lubricant. Exterior coating on 56-frame motors is two-stage epoxy and on 48-frame motors a baked-on powder coat is applied for extra corrosion resistance in tough applications. Because of the inherently low starting torques of this design, these motors are not suitable for belt driven fan applications. They must be mounted within the air stream of the driven fan.



### TWO-SPEED, TWO-WINDING VARIABLE TORQUE FOR BELT DRIVEN OR SHAFT MOUNTED FAN APPLICATIONS

Variable torque, two-speed motors are suited for belted or fan on shaft applications. They are self ventilated, and may be mounted within or outside of the driven fan's air stream.



Resilient mounted for quiet operation, and lubricated with high temperature Exxon POLYREX® EM lubricant.

3/4 HP and larger single phase are capacitor start motors; smaller single phase are split phase start.

- Suitable for single speed operation only.
- ① Has provisions for Bellyband and pedestal fan mounting – no rigid base.
- ② In addition to resilient base, this motor has provisions for Bellyband and pedestal mounting.
- Combination 56H base motors have mounting holes for NEMA 56 and NEMA 143-ST and a standard NEMA 56 shaft.
- ④ These 825 and 1075 RPM motors suitable for single speed operation only.
- \* The shaft of this motor is 3/4" longer to accommodate fan on shaft mountings. 48Z is 1/2" diameter by 2 1/4". 56Z is 5/8" diameter, 2 5/8" long. All have 1" extended through bolts, except Catalog Numbers 100805 and 100806 which are extended 1/4".
- ☆ Capacitor start/capacitor run design for reduced amperage, others are capacitor start/induction run.
- ✓ This split phase start, capacitor run motor is suitable for belt drive within the airflow of the fan.
- A Subject to Availability.

### SINGLE PHASE • PSC TYPE • RESILIENT BASE TOTALLY ENCLOSED AIR OVER (TEAO)

HP	SYN RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	Over-load Prot.	F.L. Amps 230V	"C" Dim. (Inches)
1/4	1800	48Z*	100803.00	19	115/230	Auto.	1.4	10.66
	1200	48Z*	100824.00	20	115/230	Auto.	1.4	10.66
	1200	S56Z*	10080500	22	115/230	Auto.	1.4	11.06
1/3	1800	48Z*	100804.00	21	115/230	Auto.	1.6	10.66
	1800	S56H	100767.00	22	115/230	Auto.	1.6	10.31
	1800	56HY	111348.00②	29	115/230	Auto.	1.7	12.94
	1200	48Z*	100825.00	25	115/230	Auto.	1.8	11.16
	1200	S56HZ*	100806.00	27	115/230	Auto.	1.8	11.56
	1200	56HZ*	111323.00	30	115/230	Auto.	2.6	12.56
1/2	1800	S56H	100768.00	36	115/230	Auto.	2.2	10.81
	1200	48Z*	101645.00	27	115/230	Auto.	2.8	11.16
	1200	56HZ*	111321.00□	37	115/230	Auto.	3.0	13.56
	900	56HZ*	111919.00□④	45	115/230	Auto.	3.2	13.56
	1800	56HZ*	111324.00	34	115/230	Auto.	3.5	13.06
3/4	1800	56H	111266.00	36	115/230	Auto.	3.5	12.31
	1200	56HZ*	111322.00□④	44	115/230	Auto.	4.0	13.56
	1800	56HZ*	111267.00	39	115/230	Auto.	4.4	12.81

These motors have a 1.0 Service Factor.

### SINGLE PHASE • PSC TYPE • RIGID BASE TOTALLY ENCLOSED AIR OVER (TEAO)

HP	SYN RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	Over-load Prot.	F.L. Amps 230V	"C" Dim. (Inches)
1/4	1800	48Y	100699.00	19	115/230	Auto.	1.4	10.65
	1800	48Y	101252.00*	19	115/208-230	Auto.	1.5	10.40
1/3	1800	48Y	100700.00	21	115/230	Auto.	1.6	10.65
	1800	56Y	111202.00① A	27	115/230	Auto.	1.7	12.00
	1800	48Y	101253.00* A	22	115/208-230	Auto.	1.9	10.65
	1200	S56Z	100604.00	23	115/230	Auto.	1.8	11.40
1/2	1800	48Y	100701.00	25	115/230	Auto.	2.5	12.15
	1800	S56Y	101176.00*✓	24	115/230	Auto.	3.5	10.40

### SINGLE PHASE • DRIP-PROOF • RESILIENT BASE

HP	SYN RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	Over-load Prot.	F.L. Amps High/Low	"C" Dim. (Inches)
1/4-1/12	1800/1200	48Z*	101020.00	20	115	None	4.2-3.2	11.64
1/3-0.15	1800/1200	S56H	101021.00	26	115	None	5.0-4.6	12.27
1/2-1/4	1800/1200	56H	111953.00	33	115	None	7.8-4.6	12.31
	1800/1200	56H	113643.00	33	230	None	3.9-2.3	12.31
3/4-1/3	1800/1200	56H	111954.00□	38	115	None	11.6-7.4	12.81
	1800/1200	56H	113672.00□	39	230	None	5.8-3.7	12.81
1-0.44	1800/1200	56H	111955.00□☆	41	115	None	13.2-9.5	12.81
	1800/1200	56H	113373.00□☆	39	230	None	6.5-4.6	12.81

### THREE PHASE • DRIP-PROOF • RESILIENT BASE

HP	SYN RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	Over-load Prot.	F.L. Amps High/Low	"C" Dim. (Inches)
1/2-.22	1800/1200	56H	111956.00 A	32	208-230	None	1.8-1.1	12.31
	1800/1200	56H	111957.00	32	460	None	0.9-0.5	12.31
3/4-1/3	1800/1200	56H	111958.00□ A	36	208-230	None	2.8-1.6	12.81
	1800/1200	56H	111959.00□	36	460	None	1.4-0.8	12.81
1-0.44	1800/1200	56H	111960.00□	40	208-230	None	4.0-2.4	12.81
	1800/1200	56H	111961.00□	40	460	None	1.8-1.0	12.81
1 1/2-.67	1800/1200	56H	111962.00□	40	208-230	None	5.0-2.6	12.81
	1800/1200	56H	111963.00□	40	460	None	2.5-1.3	12.81

These motors have a 1.0 Service Factor.

**TWO-SPEED • VARIABLE AND CONSTANT TORQUE**

Two-speed, single winding design motors. Typical applications and characteristic speed torque curves are noted below.

These totally enclosed fan cooled designs are priced competitive to other manufacturers' drip-proof two-speed, single winding motors.



**VARIABLE TORQUE • 460 V**

**1725/850 RPM • ONE WINDING • RIGID BASE • TEFC**

HP	SYN RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps **	"C" Dim. (Inches)
1/25	1800/900	143T	120945.00 A	36	460	1.6–0.7	12.75
1.5/.37	1800/900	145T	120941.00†	36	460	2.4–1.0	12.75
2/5	1800/900	145T	120940.00 A	36	460	3.2–1.3	12.75
3/.75	1800/900	184T	131474.00 A	77	460	4.0–1.8	14.46
5/1.2	1800/900	184T	131475.00	107	460	6.5–2.5	15.96
7.5/1.9	1800/900	215T	140447.00	155	460	9.7–3.3	17.71
10/2.5	1800/900	215T	140448.00	168	460	12.7–4.2	18.71

These TEFC motors have a 1.0 Service Factor.

**VARIABLE TORQUE • 208-230 V**

**1725/850 RPM • ONE WINDING • RIGID BASE • TEFC**

HP	SYN RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps **	"C" Dim. (Inches)
1/25	1800/900	143T	120944.00 A	36	208-230	3.2–1.4	12.75
1.5/.37	1800/900	145T	120947.00†A	36	208-230	4.8–2.0	12.75
2/5	1800/900	145T	120946.00	35	208-230	6.3–2.6	12.75
3/.75	1800/900	184T	131468.00	78	208-230	8.0–3.6	14.46
5/1.2	1800/900	184T	131469.00	94	208-230	13.0–5.0	15.96
7.5/1.9	1800/900	215T	140443.00	154	208-230	19.4–6.6	17.71
10/2.5	1800/900	215T	140444.00	166	208-230	25.4–8.4	18.71

These TEFC motors have a 1.0 Service Factor.

**CONSTANT TORQUE • 460 V**

**1725/850 RPM • ONE WINDING • RIGID BASE • TEFC**

HP	SYN RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps **	"C" Dim. (Inches)
1/5	1800/900	143T	120943.00†A	36	460	1.4–1.6	13.25
2/1	1800/900	184T	131471.00	68	460	2.9–2.9	13.96
3/1.5	1800/900	184T	131470.00	80	460	3.8–3.5	14.96
5/2.5	1800/900	215T	140445.00 A	145	460	6.7–7.0	17.71

These TEFC motors have a 1.0 Service Factor.

**CONSTANT TORQUE • 208-230 V**

**1725/850 RPM • ONE WINDING • RIGID BASE • TEFC**

HP	SYN RPM 60 Hz	NEMA Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps **	"C" Dim. (Inches)
1/5	1800/900	143T	120942.00 A	37	208-230	3.2–4.2	12.75
2/1	1800/900	184T	131473.00 A	69	208-230	5.8–5.7	13.96
3/1.5	1800/900	184T	131472.00	80	208-230	7.6–6.9	14.96
5/2.5	1800/900	215T	140446.00 A	137	208-230	13.4–14.0	17.71

These TEFC motors have a 1.0 Service Factor.

\*\* F.L. Amps listed are for high and low speeds, respectively.  
 † Class F insulated.  
 A Subject to Availability.

All 180 and 210 frame Rolled Steel motors have Class F Insulation.

**MULTI-SPEED MOTORS • APPLICATION DATA**

**Variable torque** motors have horsepower ratings that vary as the the square of the speed, while torque varies directly with the speed. These motors are typically used on applications such as fans, blowers and centrifugal pumps.

**Constant torque** motors are capable of developing the same torque for all speeds. Their horsepower ratings vary directly with the speed. Constant torque motors are used on mixers, compressors, conveyors, printing presses, extractors, feeders and laundry machinery.

**Constant horsepower** motors develop the same horsepower at all operating speeds, and the torque varies inversely with the speed. These motors are often used on machine tools, such as drills, lathes, punch presses and milling machines. **Please contact LEESON with details for constant HP applications.**

