AC Linear Induction Motor

- High forces to 2,225 N [500 Lbs.] at 15% duty cycle
- Acceleration to 9.8 m/s^2 [1g]
- Speeds to 6.85 m/s [270 in/sec] at 60 Hz
- Higher speeds at higher frequencies
- Moving primary or secondary available
- Non-contact, virtually maintenance free
- Heavy payloads
- Unlimited stroke length
- Use with: Single or three-phase AC line voltage, 50 or 60 Hz. Single-phase requires use of external capacitor
- Positioning possible with feedback system

The Linear Induction Motor is designed for high force, long-stroke applications, such as material handling, people movers, conveyors and sliding gates.

The single sided Linear Induction Motor consists of a primary coil assembly and a secondary called a reaction plate. The coil assembly is comprised of steel laminations and phase windings with a thermal sensor encapsulated in epoxy. The customer supplied reaction plate is made of 3.2 mm (1/8 inch) thick aluminum or copper plate bonded to a 6.35 mm (1/4 inch) thick cold rolled steel. The aluminum faces the coil assembly. The width of a reaction plate must be equal to the width of the coil assembly. A customer supplied bearing system is used to maintain the 3.2 mm (1/8 inch) air gap between the coil and reaction plate over the length of the stroke. Forced cooling can be used to increase the continuous rating of the motor.

The linear induction motor can be controlled direct on line or using a inverter or vector drive such as Baldor's range of H2 drives.

Ordering Information

Primary (Forcer)

L	M	A	C										

COIL ASSEMBLY LENGTH
In Inches: 16, 32
(1 In = 25.4mm)

COIL ASSY WIDTH
07, 08...16

COOLING
C = Convection
W = Water

LEAD TYPE
1 = Strain Relief
2 = Flying Leads (36" Std) (914mm)

NO. PHASES
1 = Single-phase
3 = Three-phase

VOLTAGE CODE OPTION
A = 115 VAC
B = 230 VAC
C = 380 VAC
D = 460/480 VAC
E = 550 VAC
F = 600 VAC

DUTY CYCLE
00 < 1%
50 = 50%
99 = 100%

AC Linear Induction
Motor Technical Data

Catalog Number	Force Continuous (@100% Duty Cycle)		Current Continuous 460VAC 3Ph	Weight	
	N	Lbs	Amps	Kg	Lbs
LMAC1607C23D99	62	14	2.3	20	44
LMAC1608C23D99	80	18	2.9	25	55
LMAC1609C23D99	106	24	3.7	31	68
LMAC1610C23D99	124	28	4.2	36.2	80
LMAC1611C23D99	142	32	5.0	41.6	92
LMAC1612C23D99	169	38	5.7	47.5	105
LMAC1613C23D99	186	42	6.1	52.9	117
LMAC1614C23D99	204	46	7.3	57.9	128
LMAC1615C23D99	231	52	7.6	63.3	140
LMAC1616C23D99	258	58	8.0	68.8	152
LMAC3207C23D99	124	28	4.4	39.8	88
LMAC3208C23D99	160	36	5.6	49.8	110
LMAC3209C23D99	195	44	6.8	61.5	136
LMAC3210C23D99	231	52	8.0	72.4	160
LMAC3211C23D99	275	62	9.5	83.3	184
LMAC3212C23D99	320	72	11.0	95.0	210
LMAC3213C23D99	347	78	11.5	105.9	234
LMAC3214C23D99	400	90	13.5	115.8	256
LMAC3215C23D99	427	96	14.1	126.7	280
LMAC3216C23D99	445	100	14.7	137.6	304

AC Linear Induction Motor Technical Data

Technical Data

Catalog Number	Force @ 15% Duty Cycle		Current @ 15% Duty Cycle 460VAC 3Ph	Weight	
	N	Lbs	Amps	Kg	Lbs
LMAC1607C23D15	311	70	11.5	20	44
LMAC1608C23D15	400	90	14.5	25	55
LMAC1609C23D15	534	120	18.5	31	68
LMAC1610C23D15	622	140	21	36.2	80
LMAC1611C23D15	711	160	25	41.6	92
LMAC1612C23D15	845	190	28.5	47.5	105
LMAC1613C23D15	934	210	30.5	52.9	117
LMAC1614C23D15	1023	230	36.5	57.9	128
LMAC1615C23D15	1156	260	38	63.3	140
LMAC1616C23D15	1289	290	40	68.8	152
LMAC3207C23D15	622	140	22	39.8	88
LMAC3208C23D15	800	180	28	49.8	110
LMAC3209C23D15	978	220	34	61.5	136
LMAC3210C23D15	1156	260	40	72.4	160
LMAC3211C23D15	1378	310	47.5	83.3	184
LMAC3212C23D15	1600	360	55	95.0	210
LMAC3213C23D15	1434	390	57.5	105.9	234
LMAC3214C23D15	2000	450	67.5	115.8	256
LMAC3215C23D15	2135	480	70.5	126.7	280
LMAC3216C23D15	2224	500	73.5	137.6	304

AC Linear Induction Motor Curves

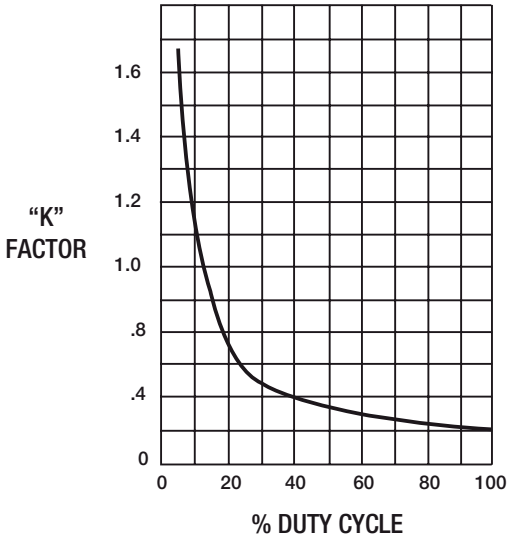

Figure 1

The force and current ratings shown in the performance table are based on 460VAC, three phase, 60 Hz input at a 15% duty cycle and a 1/8 inch (3.175 mm) airgap. To select a motor at other duty cycles, divide the required force by the duty cycle K factor rating on the curve corresponding to the required duty cycle. Select the closest equivalent or next higher rating from the performance table.

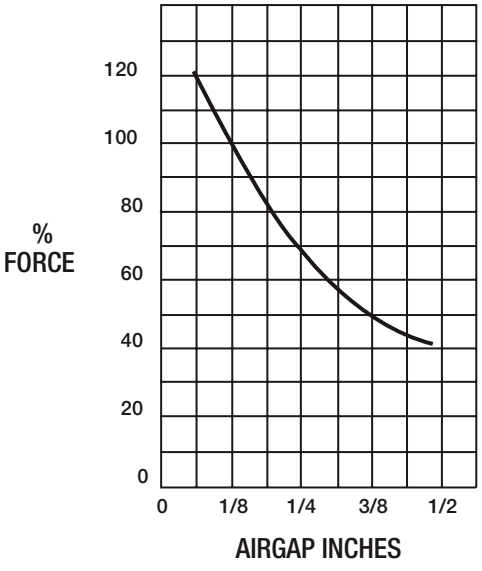

Figure 2

Provides the % force output versus the motor airgap in inches

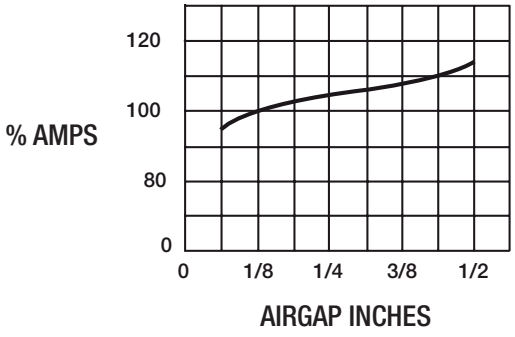

Figure 3

Provides the % motor current versus the motor airgap in inches.

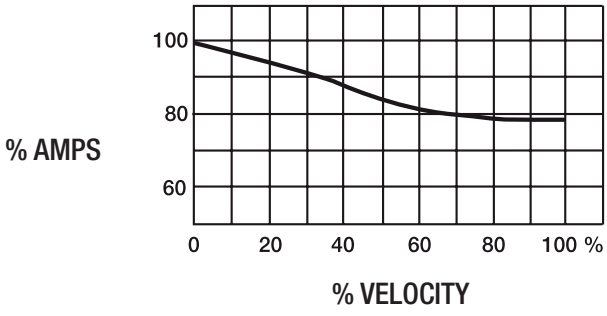

Figure 4

Provides the % motor current vs. % motor speed.

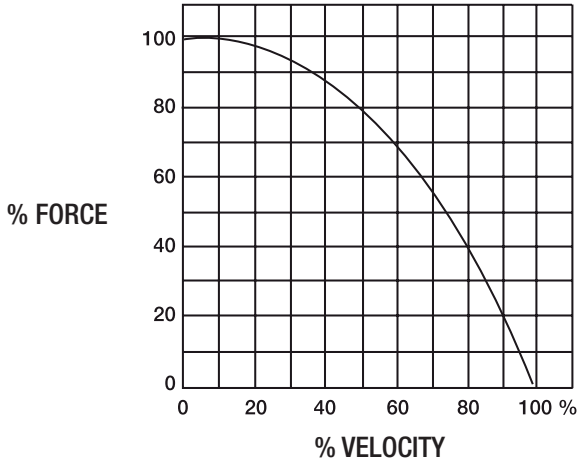

Figure 5

Plots % thrust (force) vs. % velocity.