

LIMA[®] MAC
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Generators
Making Energy
Work for You

MARATHON[®]
ELECTRIC
A Subsidiary of Regal-Beloit Corporation

RUNS.[®]
AND RUNS.
AND RUNS.
AND RUNS.



LIMA[®]MAC Power ge

Performance, reliability, and simplicity describe the LIMA[®]MAC line of generators from Marathon Electric. Ruggedly designed for superior motor starting capability, LIMA[®]MAC generators provide dependable electrical power with inherent safety features to handle even the most severe applications and environments.

Designed for 1 hp/kW, 3 phase, Code G motor starting capability, the LIMA[®]MAC generator is self-regulated and self-excited, providing maximum reliability without external voltage regulation, adjustments, or electronic controls . . . a “hands off” generator supplying simplicity with minimum maintenance for any application.

For consistent electrical power, longer system life, and lasting value, specify the LIMA[®]MAC line of generators from 5 to

300 kW. Wherever dependability counts most, LIMA[®]MAC generators deliver quality performance and product support unequaled in the industry.

Consider the Benefits LIMA[®]MAC Generators Offer You . . .

Choice

Brushless single phase and three phase designs from 5 to 300 kW. All generators are 4-pole, 1800 rpm designs.

Maximum Performance

- 1 hp/kW, 3 phase, Code G motor starting capability
- Inherent volts/hertz characteristic, providing automatic protection from engine underspeed
- Self-regulated for “hands off” operation
- Inherent 3 phase short circuit support
- Transient voltage dip not more than 10% with one-step

application of full, continuous duty rated load at rated power factor.

- 4% voltage regulation at governed synchronous speed.

Rugged Construction Main and Exciter Rotor

Stator windings are Class F insulated with multiple dips and bakes of nonhygroscopic varnish for protection against harsh environments. Ratings are based upon NEMA Class B temperature rise for maximum generator life. Stator windings are a solid, moisture resistant type with superior physical and dielectric strength.

Brushless Exciter

At the heart of the LIMA[®]MAC generator is a patented brushless excitation system. This excitation system is a 3 phase, rotating current transformer/frequency converter which responds to load changes and maintains output voltage within 4%. The 3 phase, full wave rectification provides a resulting low ripple (smoother) DC source to consistently excite the main field.

Salient Pole Rotor Assembly

The LIMA[®]MAC main rotor utilizes a single piece, 4-pole lamination for maximum mechanical strength. Field windings are “wet wound” with enameled magnet wire in Class H thermosetting epoxy for high



eneration made easy

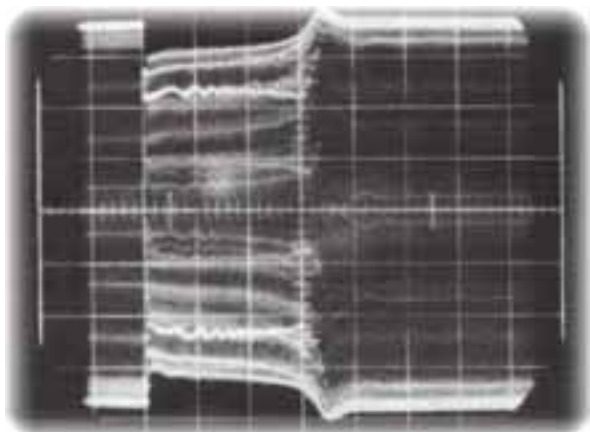
electrical integrity and designed to withstand overspeed of 125% of rated rpm for 15 minutes without damage.

Permanently Lubricated Bearings

Bearings are single width, double shielded type ball bearings pre-lubricated for the life of the bearing and sized for a minimum B-10 life of 100,000 hours. Shafts are precision ground and the bearing carrier is cast iron with bearing outboard the exciter rotor.

Cast Aluminum Alloy Ventilating Fan

Bidirectional high efficiency fan and internal air flow patterns maximize heat transfer and minimize hot spot differentials for longer winding life.



The oscillograph shows the ability of the LIMA®MAC to start Code G three phase motors. With 1 hp/kW across the line, there is less than a 35% voltage dip and fast recovery to rated voltage. The proportional volts/hertz characteristic with variations in shaft speed is ideal for induction motors.



Fully Guarded for Operator Safety

No exposed laminations or live parts. NEMA weather-protected Type 1 enclosure provides protection from environmental conditions and maximum operator safety.

All LIMA®MAC generators are manufactured to applicable NEMA, IEEE, and CSA standards.

Motor Starting Application Leader

LIMA®MAC generators provide field-proven motor application

superiority on container refrigeration, center pivot irrigation systems, aggregate processing plants, sewage lift stations, and submersible pump applications. Additionally, they continue to be specified for general purpose power supply in rental fleets, on construction sites, and in light tower installations. LIMA®MAC generators are utilized worldwide whenever reliability, performance, and simplicity in design are required. Simple to install and operate . . . LIMA®MAC . . . the only design of its kind in the marketplace.

Marathon Electric: The Experts in Your Field

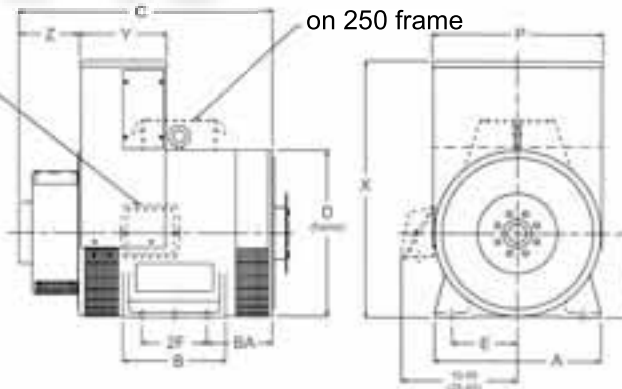
Committed to electrical and mechanical innovation and specialization, Marathon Electric is dedicated to the design and manufacture of only the highest quality electrical products. With over 80 years experience as a leading supplier to the generator market, Marathon Electric continues to offer our customers more: design and application experience; a broad product line; availability and delivery; and aftermarket service.

LIMA[®]MAC

8 × 8 inch integral cast connection box standard on 250 frame

250–680 Frame

Side-mounted connection box standard on 280 frame LIMA[®]MAC



ALL DIMENSIONS ARE APPROXIMATE. Refer to the *Product Support* link on our website or the *Outline Drawings - Cross Reference* link on our CD-ROM for full dimensional data.

Dimensions

OVERALL DIMENSION: US CUSTOMARY (METRIC)

Frame Size	A in (cm)	B in (cm)	BA in (cm)	C in (cm)	D in (cm)	E in (cm)	2F in (cm)	H in (cm)	P in (cm)	X in (cm)	Y in (cm)	Z in (cm)
250	14.00 (35.56)	7.00 (17.78)	6.56 (16.66)	14.31 (36.35)	14.00 (35.56)	6.25 (15.88)	5.00 (12.70)	8.00 (20.32)	8.00 (20.32)	17.31 (43.97)	8.00 (20.32)	3.18 (8.08)
280	14.00 (35.56)	7.00 (17.78)	6.56 (16.66)	20.88 (53.04)	13.00 (33.02)	6.25 (15.88)	5.00 (12.70)	8.00 (20.32)	N/A	N/A	N/A	N/A
360	17.75 (45.09)	11.00 (27.94)	7.00 (17.78)	27.12 (68.88)	17.75 (45.09)	7.00 (17.78)	7.00 (17.78)	9.00 (22.86)	18.25 (46.36)	27.38 (69.55)	9.31 (23.65)	6.47 (16.43)
440	21.25 (53.98)	14.00 (35.56)	6.62 (16.81)	31.30 (79.50)	21.75 (55.25)	9.00 (22.86)	11.00 (27.94)	11.00 (27.94)	22.12 (56.18)	32.21 (81.81)	12.31 (31.27)	6.31 (16.03)
580	25.75 (65.41)	14.00 (35.56)	10.00 (25.40)	36.62 (93.01)	25.75 (65.41)	11.50 (29.21)	11.00 (27.94)	14.50 (36.83)	25.88 (65.74)	36.80 (93.47)	18.00 (45.72)	6.50 (16.51)
680	26.00 (66.04)	17.00 (43.18)	8.00 (20.32)	38.12 (96.82)	28.00 (71.12)	11.50 (29.21)	14.00 (35.56)	14.50 (36.83)	28.12 (71.42)	39.06 (99.21)	18.00 (45.72)	6.50 (16.51)

Ratings

STANDARD LIMA[®]MAC GENERATOR RATINGS

All ratings based on a maximum of 40°C ambient and 3300 ft. altitude (1000 meters)

Model Number			Frame Size	Standard Voltage Regulator	3 Phase 0.8 PF Continuous Duty kW 80°C R/R	1 Phase 1.0 PF Continuous Duty kW 105°C R/R ①	Approx. Weight (Lb)
4 Lead ②	10 Lead	12 Lead ①					
120/240V	139/240V 277/480V Wye	120/208V 240/416V Wye 120/240V Delta					
250MSL1185	N/A	N/A	250	(Not Required)	N/A	5 ②	165
250MSL1152	N/A	N/A	250	(Not Required)	N/A	7.5 ②	180
Not Available	250MSL1237	250MSL1235	250	(Not Required)	5	5	160
Not Available	250MSL1238	250MSL1236	250	(Not Required)	7.5	7.5	175
Not Available	280MSL0054	280MSL0079	280	(Not Required)	10	10	255
Not Available	280MSL0055	280MSL0080	280	(Not Required)	12	12	270
Not Available	280MSL0056	280MSL0081	280	(Not Required)	15	15	285
Not Available	360MSL0057	360MSL0082	360	(Not Required)	20	20	600
Not Available	360MSL0058	360MSL0083	360	(Not Required)	25	25	675
Not Available	360MSL0059	360MSL0084	360	(Not Required)	30	30	725
Not Available	360MSL0060	360MSL0085	360	(Not Required)	40	40	760
Not Available	440MSL0885	440MSL0860	440	(Not Required)	50	50	1075
Not Available	440MSL0886	440MSL0861	440	(Not Required)	60	60	1125
Not Available	440MSL0887	440MSL0862	440	(Not Required)	75	75	1225
Not Available	440MSL0888	440MSL0863	440	(Not Required)	100	100	1310
Not Available	580MSL0889	Not Available	580	(Not Required)	125	N/A	1750
Not Available	580MSL1166	Not Available	580	(Not Required)	150	N/A	1810
Not Available	580MSL0891	Not Available	580	(Not Required)	175	N/A	2170
Not Available	580MSL0892	Not Available	580	(Not Required)	200	N/A	2225
Not Available	680MSL0893	Not Available	680	(Not Required)	250	N/A	2550
Not Available	680MSL0894	Not Available	680	(Not Required)	300	N/A	2700

① 12-wire units only (120V Delta, 120/240V Zigzag, and 240V Zigzag)

② 4-wire units @ 0.9 PF, 105°C R/R

Marathon Electric Mfg. Corp.
P.O. Box 8003
Wausau, WI 54402-8003 USA
www.marathonelectric.com

Phone: 715-675-3359
Fax: 715-675-8026
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