

# MAGNAMAX<sup>DVR</sup>®



**Generator Ratings:**

**kW 118 – 2370 (60 Hz)**

**kVA 136 – 2400 (50 Hz)**



**MARATHON ELECTRIC**  
GENERATORS

ISO 9001:2000 Certified

# Product Features

**Permanent Magnet Generator . . .** ensures 300% short circuit current during fault conditions and provides the regulator with input power isolated from load distortions.

**Unirotor Construction . . .** incorporates single piece rotor laminations, a die cast rotor core and amortisseur windings into an integrated rotor assembly. The field winding is wet layer wound to the rotor assembly with thermo setting epoxy for high mechanical and electrical integrity.

**Digital Voltage Regulator . . .** is encapsulated for reliable performance in all environments. The DVR®2000E includes voltage regulation to .25%, three phase RMS sensing, adjustable volts/hertz underspeed protection, advanced engine unloading algorithms, integrated paralleling capabilities, and over-excitation /over-voltage protection. A VAR-PF controller is available as an optional feature.

**Large Conduit Box . . .** provides ample space for easy connections and allows load line access from all sides, top, or bottom.

**Exciter and PMG Mounting . . .** provides easy access and serviceability. The PMG is mounted external to the generator bearing. The exciter is externally mounted on 570 and 740 frame generators.

**Class H Insulation System . . .** utilizes an unsaturated polyester varnish for optimal insulation life and superior moisture protection.

A tropical insulation is added for increased environmental protection. A vacuum pressure impregnated insulation system is an available option.

**Shielded Heavy-Duty Bearings . . .** resist contamination and give a minimum B-10 life of 40,000 hours. Regreasing provisions are available on all generators.

**Enhanced Ventilation . . .** created by a high efficiency fan and optimized internal air flow patterns, maximizes heat transfer and minimizes hot spot differentials for extended winding life.

**Fully Guarded . . .** for operator safety and generator protection, no rotating or electrically energized parts are exposed. All openings are covered by louvers or screens.

**Optimized Windings . . .** provide low reactances and exceptional motor starting capability. The stator windings utilize a 2/3 pitch to minimize harmonic distortion and facilitate parallel operation.

**Design Specs and Agency Approvals . . .** are important at Marathon. All **MAGNAMAX<sup>DVR®</sup>** units meet NEMA MG1-22, BS5000, CSA C22.2, IEC 34-1 and VDE 0530 requirements. Marine versions are available to meet American Bureau of Shipping, Lloyds, Det Norske Veritas, or Nippon Kaiji Kyokai requirements.

# MAGNAMAX<sup>DVR</sup><sup>®</sup>

# Innovation Performance Reliability



## Unirotor Construction

- Single Piece Rotor Laminations
- Aluminum Die Cast Rotor Core



## DVR2000E

- Patented PMG Powered
- Digital Voltage Regulator

Since its market introduction, Marathon Electric's **MAGNAMAX<sup>DVR</sup><sup>®</sup>** has been a technology leader and proven performer. The **MAGNAMAX<sup>DVR</sup><sup>®</sup>** generator line offers as standard a permanent magnet generator excitation system, exceptional transient performance and strong motor starting capability, and utilizes the industry's first digital voltage regulator.

Each **MAGNAMAX<sup>DVR</sup><sup>®</sup>** features the exclusive DVR2000E digital voltage regulator providing .25% regulation and three phase RMS sensing.

These outstanding features make **MAGNAMAX<sup>DVR</sup><sup>®</sup>** the ideal generator for voltage critical applications such as:

- Telecomm Networks
- Commercial Buildings
- Hospitals
- Computer Centers
- Airports
- Distributed Power

**MAGNAMAX<sup>DVR</sup><sup>®</sup>** meets the demands of today's changing market:

- Supporting non-linear loads (UPS systems and variable frequency drives)
- Providing unprecedented voltage regulation in the presence of harmonic distortion caused by non-linear loads
- Easy access and serviceability
- Providing low reactance design which minimizes the harmonic voltage distortion caused by non-linear loads
- Constructed for extended life
- Reliable performance

**60  
Hertz**

**4-Pole,  
Three Phase**

**240Y or 480Y Volts  
(10-12 Leads)  
480Y Volts (4-6 Leads)**

1800 RPM  
NEMA Class H Insulation  
40°C Ambient  
0.8 Power Factor Lagging  
DVR®2000E AVR with  
PMG Excitation

**MAGNAMAX<sup>®</sup>DVR**

Base Model	Net Wt. (lbs.)	No. of Leads	Voltage	kW Rating @ Designated NEMA Rise				
				Continuous			Standby	
				NEMA B 80°C R/R	NEMA F 105°C R/R	NEMA H 125°C R/R	NEMA F 130°C R/R	NEMA H 150°C R/R
431RSL4005	1280	12	240Y/480Y	126	145	154	155	160
431RSL4007	1370	12	240Y/480Y	140	165	175	175	185
432RSL4009	1550	12	240Y/480Y	172	203	215	215	226
432RSL4011	1570	12	240Y/480Y	192	221	231	231	250
432RSL4013	1600	12	240Y/480Y	200	235	250	250	263
432RSL4015	1810	12	240Y/480Y	230	275	285	285	300
432RSL4017	1830	12	240Y/480Y	230	275	292	300	310
433RSL4019	2340	12	240Y/480Y	305	350	375	375	415
433RSL4021	2365	12	240Y/480Y	330	380	405	405	440
572RSL4024	2730	10	240Y/480Y	380	450	475	475	505
572RSL4025	2730	12	240Y/480Y	380	450	475	475	505
572RSL4027	2840	12	240Y/480Y	440	500	515	515	560
572RSL4028	3050	10	240Y/480Y	445	535	560	560	610
572RSL4029	3050	12	240Y/480Y	445	535	560	560	610
572RSL4030	3110	10	240Y/480Y	485	575	600	600	645
572RSL4031	3110	12	240Y/480Y	485	575	600	600	645
573RSL4032	3400	10	240Y/480Y	570	680	700	700	765
573RSL4033	3400	12	240Y/480Y	570	680	700	700	765
573RSL4034	3620	10	240Y/480Y	585	710	750	750	810
573RSL4035	3620	12	240Y/480Y	585	710	750	750	810
574RSL4036	4080	10	240Y/480Y	670	800	825	825	900
574RSL4037	4080	12	240Y/480Y	670	800	825	825	900
574RSL4038	4240	4	480Y Only	720	860	915	920	970
575RSL4044	5000	4 Bars	480Y Only	800	975	1050	1060	1130
741RSL4045	5490	12	240Y/480Y	865	1030	1080	1100	1100
740RSL4046	5200	4 Bars	480Y Only	950	1120	1200	1220	1250
742RSL4048	6300	4 Bars	480Y Only	1000	1200	1260	1300	1300
742RSL4049	6300	12	240Y/480Y	1000	1200	1260	1300	1300
742RSL4050	7230	4 Bars	480Y Only	1220	1430	1500	1500	1520
743RSL4052	7800	4 Bars	480Y Only	1310	1600	1700	1750	1750
744RSL4054	8600	4 Bars	480Y Only	1500	1850	1960	2000	2000
744RSL4056	9740	4 Bars	480Y Only	1700	2010	2160	2210	2260
744RSL4058	9740	4 Bars	480Y Only	1760	2100	2270	2320	2370
Form Wound Coil Designs								
744FSL4060	7300	4 Bars	480Y Only	1200	1430	1500	1500	1500
744FSL4062	8300	4 Bars	480Y Only	1500	1800	1900	1900	1900

**60**  
Hertz

**4-Pole,  
Three Phase**

**208Y or 416Y Volts (10-12 Leads)  
416Y Volts (4 Leads)  
240 or 120 Volts Delta (12 Leads)**

1800 RPM  
NEMA Class H Insulation  
40°C Ambient  
0.8 Power Factor Lagging  
DVR®2000E AVR with  
PMG Excitation

**MAGNAMAX<sup>DVR</sup>**

Base Model	Net Wt. (lbs.)	No. of Leads	Voltage	kW Rating @ Designated NEMA Rise				
				Continuous			Standby	
				NEMA B 80°C R/R	NEMA F 105°C R/R	NEMA H 125°C R/R	NEMA F 130°C R/R	NEMA H 150°C R/R
431RSL4005	1280	12	208Y/416Y	118	132	138	138	138
431RSL4007	1370	12	208Y/416Y	132	150	160	160	168
432RSL4009	1550	12	208Y/416Y	166	187	200	200	200
432RSL4011	1570	12	208Y/416Y	183	207	219	221	221
432RSL4013	1600	12	208Y/416Y	193	219	231	235	250
432RSL4015	1810	12	208Y/416Y	232	262	262	262	262
432RSL4017	1830	12	208Y/416Y	238	275	287	287	310
433RSL4019	2340	12	208Y/416Y	290	325	350	350	360
433RSL4021	2365	12	208Y/416Y	315	355	375	380	400
572RSL4024	2730	10	208Y/416Y	385	435	440	440	450
572RSL4025	2730	12	208Y/416Y	385	435	440	440	450
572RSL4027	2840	12	208Y/416Y	400	445	470	475	505
572RSL4028	3050	10	208Y/416Y	450	510	525	525	535
572RSL4029	3050	12	208Y/416Y	450	510	525	525	535
572RSL4030	3110	10	208Y/416Y	460	525	555	565	600
572RSL4031	3110	12	208Y/416Y	460	525	555	565	600
573RSL4032	3400	10	208Y/416Y	570	650	685	700	725
573RSL4033	3400	12	208Y/416Y	570	650	685	700	725
573RSL4034	3620	10	208Y/416Y	590	680	720	725	725
573RSL4035	3620	12	208Y/416Y	590	680	720	725	725
574RSL4036	4080	10	208Y/416Y	630	725	770	785	825
574RSL4037	4080	12	208Y/416Y	630	725	770	785	825
574RSL4038	4240	4	416Y Only	675	770	820	835	885
575RSL4044	5000	4 Bars	416Y Only	760	890	950	975	1040
741RSL4045	5490	12	208Y/416Y	810	920	970	1000	1020
740RSL4046	5200	4 Bars	416Y Only	880	1020	1090	1110	1180
742RSL4048	6300	4 Bars	416Y Only	950	1100	1160	1180	1250
742RSL4049	6300	12	208Y/416Y	950	1100	1160	1180	1250
742RSL4050	7230	4 Bars	416Y Only	1110	1270	1340	1370	1410
743RSL4052	7800	4 Bars	416Y Only	1400	1610	1610	1610	1620
744RSL4054	8600	4 Bars	416Y Only	1420	1680	1800	1840	1840
744RSL4056	9740	4 Bars	416Y Only	1520	1780	1900	1950	2000
744RSL4058	9740	4 Bars	416Y Only	1640	1920	2050	2090	2240
Form Wound Coil Designs								
744FSL4060	7300	4 Bars	416Y Only	1190	1380	1440	1440	1440
744FSL4062	8300	4 Bars	416Y Only	1510	1750	1830	1830	1830

**50  
Hertz**

**4-Pole,  
Three Phase**

1500 RPM  
NEMA Class H Insulation  
40°C Ambient  
0.8 Power Factor Lagging  
DVR®2000E AVR with PMG Excitation

**MAGNAMAX<sup>DVR</sup>**

Base Model	Net Wt. (lbs.)	No. of Leads	kVA Continuous Duty				kVA Standby Duty			
			NEMA F 105°C R/R		NEMA H 125°C R/R		NEMA F 130°C R/R		NEMA H 150°C R/R	
			415/240 V	380/220 V	415/240 V	380/220 V	415/240 V	380/220 V	415/240 V	380/220 V
431RSL4005	1280	12	136	141	145	149	148	150	151	159
431RSL4007	1370	12	155	159	164	168	168	170	173	180
432RSL4009	1550	12	189	208	203	219	206	223	214	224
432RSL4011	1570	12	208	218	221	231	225	235	234	243
432RSL4013	1600	12	231	233	244	244	250	250	255	254
432RSL4015	1810	12	253	276	275	294	279	300	290	300
432RSL4017	1830	12	258	281	278	298	283	303	294	314
433RSL4019	2340	12	338	356	363	375	363	375	394	406
433RSL4021	2365	12	366	369	394	394	400	400	413	425
500ESL4024	2730	10	413	469	444	500	456	500	475	506
572RSL4025	2730	12	413	469	444	500	456	500	475	506
500ESL4027	2840	12	469	475	500	500	513	513	531	544
500ESL4028	3050	10	500	550	531	588	544	594	563	600
572RSL4029	3050	12	500	550	531	588	544	594	563	600
572ESL4030	3110	10	550	563	581	600	600	613	625	644
572RSL4031	3110	12	550	563	581	600	600	613	625	644
573ESL4032	3400	10	650	700	700	750	713	756	738	775
573RSL4033	3400	12	650	700	700	750	713	756	738	775
573ESL4034	3620	10	669	738	713	781	731	800	756	819
573RSL4035	3620	12	669	738	713	781	731	800	756	819
574ESL4036	4080	10	731	769	788	819	800	831	838	888
574RSL4037	4080	12	731	769	788	819	800	831	838	888
741RSL4045	5490	12	969	1000	1038	1056	1038	1075	1106	1144
742RSL4049	6300	12	1131	1181	1219	1250	1219	1263	1300	1338
Single Voltage 380Y - 415Y Only										
574ESL4038	4240	4 Bars	825	831	888	888	906	900	938	956
575ESL4044	5000	4 Bars	963	963	1013	1031	1025	1056	1056	1138
740RSL4046	5200	4 Bars	1106	1125	1188	1200	1219	1219	1275	1300
742RSL4048	6300	4 Bars	1131	1181	1219	1250	1219	1263	1300	1338
742RSL4050	7230	4 Bars	1438	1363	1538	1463	1538	1500	1638	1563
743RSL4052	7800	4 Bars	1500	1650	1600	1775	1600	1775	1725	1850
744RSL4054	8600	4 Bars	1725	1750	1875	1875	1875	1913	2013	1988
744RSL4056	9740	4 Bars	1963	2063	2125	2200	2125	2200	2275	2400
744RSL4058	9740	4 Bars	2038	2013	2225	2150	2288	2188	2400	2337
Form Wound Coil Designs - Single Voltage 380Y - 415Y Only										
744FSL4060	7300	4 Bars	1425	1450	1550	1563	1550	1563	1650	1650
744FSL4062	8300	4 Bars	1750	1725	1900	1875	1900	1875	2025	1963

MARATHON ELECTRICAL  
GENERATOR

**60  
Hertz**

**4-Pole,  
Medium Voltage,  
Three Phase**

**4160Y/2402 Volts  
(6 Leads)  
2402 Volts Delta**

1800 RPM  
Form Wound Coils with  
VPI Insulation  
NEMA Class H Insulation  
40°C Ambient  
0.8 Power Factor Lagging  
DVR®2000E AVR with  
PMG Excitation

**MAGNAMAX<sup>DVR</sup>**

Base Model	Net Wt. (lbs.)	No. of Leads	Continuous						Standby			
			NEMA B 80°C R/R		NEMA F 105°C R/R		NEMA H 125°C R/R		NEMA F 130°C R/R		NEMA H 150°C R/R	
			kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW
573FSM4352	2890	6	394	315	500	400	519	415	519	415	575	460
573FSM4354	3030	6	438	350	563	450	625	500	625	500	663	530
574FSM4356	3530	6	581	465	750	600	781	625	781	625	875	700
574FSM4358	4050	6	688	550	888	710	950	760	950	760	1050	840
741FSM4360①	5300	6	913	730	1125	900	1156	925	1156	925	1163	930
742FSM4364①	6100	6	1156	925	1400	1120	1500	1200	1500	1200	1500	1200
742FSM4366①	6900	6	1400	1120	1700	1360	1813	1450	1813	1450	1813	1450
743FSM4368①	7500	6	1550	1240	1900	1520	2000	1600	2000	1600	2013	1610
743FSM4370①	8200	6	1713	1370	2100	1680	2250	1800	2250	1800	2250	1800
744FSM4374①	9300	6	1906	1525	2344	1875	2563	2050	2563	2050	2563	2050
744FSM4376①	9340	6	2250	1800	2688	2150	2900	2320	2900	2320	2900	2320

**50  
Hertz**

**4-Pole,  
Medium Voltage,  
Three Phase**

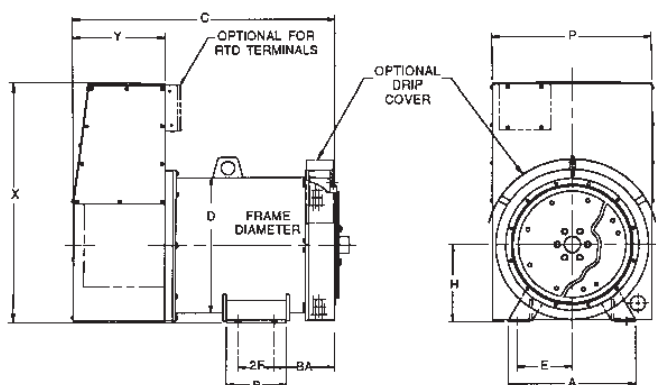
**3300Y/1905 Volts  
(6 Leads)  
1905 Volts Delta**

1500 RPM  
Form Wound Coils with  
VPI Insulation  
NEMA Class H Insulation  
40°C Ambient  
0.8 Power Factor Lagging  
DVR®2000E AVR with  
PMG Excitation

**MAGNAMAX<sup>DVR</sup>**

Base Model	Net Wt. (lbs.)	No. of Leads	Continuous						Standby			
			NEMA B 80°C R/R		NEMA F 105°C R/R		NEMA H 125°C R/R		NEMA F 130°C R/R		NEMA H 150°C R/R	
			kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW
573FSM4352	2890	6	350	280	425	340	456	365	469	375	488	390
573FSM4354	3030	6	388	310	475	380	519	415	531	425	550	440
574FSM4356	3530	6	500	400	625	500	663	530	681	545	706	565
574FSM4358	4050	6	588	470	731	585	788	630	806	645	838	670
741FSM4360①	5300	6	769	615	913	730	981	785	981	785	1038	830
742FSM4364①	6100	6	963	770	1156	925	1250	1000	1250	1000	1325	1060
742FSM4366①	6900	6	1163	930	1400	1120	1500	1200	1500	1200	1600	1280
743FSM4368①	7500	6	1300	1040	1550	1240	1675	1340	1675	1340	1788	1430
743FSM4370①	8200	6	1425	1140	1750	1400	1900	1520	1900	1520	2050	1640
744FSM4374①	9300	6	1525	1220	1813	1450	2000	1600	2000	1600	2188	1750
744FSM4376①	9340	6	1500	1200	2050	1640	2275	1820	2338	1870	2463	1970

① All 740 frame generators on this page have 100 ohm platinum winding RTDs as standard equipment.



430 – 570 – 740 Frame

## Dimensions in inches and (millimeters)



ALL DIMENSIONS ARE APPROXIMATE: Contact factory for full dimensional data

Frame Size	A	B	BA	C	D	E	2F	H	P	X	Y	MAX Net Wgt. lbs. (kg)
431	21.00 (533)	10.00 (254)	10.00 (254)	38.40 (975)	22.64 (575)	9.00 (229)	6.00 (152)	13.00 (330)	26.51 (673)	39.77 (1010)	15.21 (386)	1370 (623)
432	21.00 (533)	10.00 (254)	10.00 (254)	43.40 (1102)	22.64 (575)	9.00 (229)	6.00 (152)	13.00 (330)	26.51 (673)	39.77 (1010)	15.21 (386)	1830 (832)
433	21.00 (533)	10.00 (254)	10.00 (254)	49.40 (1255)	22.64 (575)	9.00 (229)	11.00 (279)	13.00 (330)	26.51 (673)	39.77 (1010)	15.21 (386)	2365 (1075)
572	22.50 (572)	15.00 (381)	11.50 (292)	51.52 (1308)	27.64 (702)	10.00 (254)	11.00 (279)	15.50 (394)	30.77 (782)	42.64 (1083)	17.21 (437)	3110 (1411)
573	22.50 (572)	24.00 (610)	11.50 (292)	58.02 (1474)	27.64 (702)	10.00 (254)	20.00 (508)	15.50 (394)	30.77 (782)	42.64 (1083)	17.21 (437)	3620 (1642)
574	22.50 (533)	24.00 (610)	11.50 (292)	65.02 (1651)	27.64 (702)	10.00 (254)	20.00 (508)	15.50 (394)	30.77 (782)	42.64 (1083)	17.21 (437)	4240 (1923)
575	22.50 (533)	24.00 (610)	11.50 (292)	69.27 (1759)	27.64 (702)	10.00 (254)	20.00 (508)	15.50 (394)	30.77 (782)	42.64 (1083)	19.21 (488)	5000 (2268)
740	33.00 (838)	27.00 (686)	12.00 (305)	71.37 (1813)	27.64 (702)	15.00 (381)	23.00 (584)	19.00 (483)	30.77 (782)	51.45 (1307)	19.21 (488)	5200 (2359)
741	33.00 (838)	27.00 (686)	12.00 (305)	65.81 (1672)	34.24 (870)	15.00 (381)	23.00 (584)	19.00 (483)	38.02 (966)	51.45 (1307)	21.24 (539)	5490 (2490)
742	33.00 (838)	27.00 (686)	12.00 (305)	72.81 (1849)	34.24 (870)	15.00 (381)	23.00 (584)	19.00 (483)	38.02 (966)	51.45 (1307)	21.24 (539)	6300 (2858)
743	33.00 (838)	41.00 (1041)	12.00 (305)	79.31 (2014)	34.24 (870)	15.00 (381)	37.00 (940)	19.00 (483)	38.02 (966)	51.45 (1307)	21.24 (539)	7800 (3538)
744	33.00 (838)	41.00 (1041)	12.00 (305)	85.81 (2180)	34.24 (870)	15.00 (381)	37.00 (940)	19.00 (483)	38.02 (966)	51.45 (1307)	21.24 (539)	9740 (4418)

Note: Connection boxes shown are furnished as standard product. Consult factory for optional connection boxes.



**Your Independent Power Source  
for the 21<sup>st</sup> Century!**

P.O. Box 8003  
Wausau, WI 54402-8003 USA

www.marathonelectric.com

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

SB370 6029J/2k/11-07/SK/TP

