

**HARSH DUTY**

**marathon®**  
Generators



## **HARSH DUTY GENERATORS**

DEPENDABLE POWER FOR THE HARSHEST APPLICATIONS  
10KW TO 800KW, 60HZ AND 50HZ

**REGAL®**

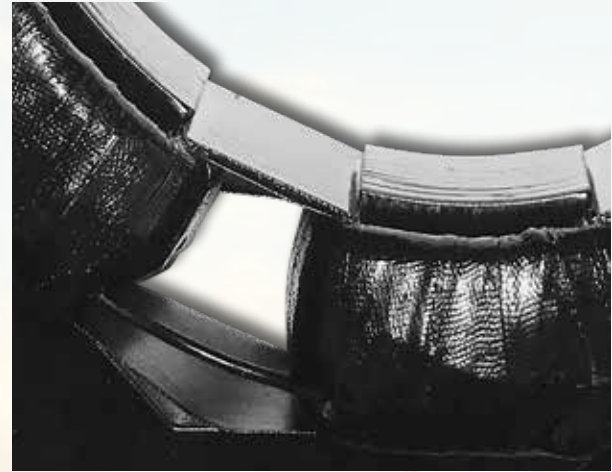


# HARSH DUTY

**WITH OVER 50 YEARS OF EXPERIENCE IN THE INDUSTRIAL MARKET, MARATHON® GENERATORS DELIVER THE LONG LIFE AND RELIABILITY THAT THE HARSHTEST APPLICATIONS DEMAND.**

## HARSH DUTY EXCITER

The ultimate in HARSH DUTY exciter stator construction. Coils are toroidally wrapped in fiberglass tape, fully encapsulating the winding and jumper sleeve ends. All coil to coil jumpers are fully sleeved. The windings are then fully submerged to ensure they are completely encased in 100% solids varnish. Finally, the complete exciter stator is coated with a two-component, anti-tracking top coat finish varnish for maximum protection in harsh, dust-laden, industrial applications.



## REINFORCED MAIN STATOR WINDINGS

Main stator windings receive multiple Dip & Bake cycles using 100% solids varnish. The main stator is then coated with a two-component, anti-tracking top coat finish varnish for maximum protection in harsh, dust-laden, industrial applications.



## WET WOUND ROTOR CONSTRUCTION

Because industrial applications demand 100% uptime and reliability is critical, HARSH DUTY generators utilize single piece laminations and wet layer winding processes to provide the most reliable rotor construction on the market today.

## HEAVY DUTY RECTIFIER ASSEMBLY

Industrial generators often see harsh electrical applications including paralleling Make-Before-Break-Transfers, large motor starting loads and highly non-linear loads. Marathon® Generator's heavy duty rectifier assemblies are designed to handle extreme voltage transient surges and over-current situations. Diodes are selected with ratings of 300% beyond worst case design requirements. Diodes are hermetically sealed, welded case stud type for maximum environmental protection.

Selenium surge suppressors are standard on models 360 frame size and larger. Selenium suppressors have self-healing characteristics and heat-sink capacity to handle up to 40x more power than a Metal Oxide Varistor (MOV) to better protect diodes during extreme loading conditions encountered in movie and entertainment industry lighting applications and other transient conditions.





## GLOBAL TECHNICAL SUPPORT

With highly qualified teams of engineers and technical support staff in the United States, Asia and Europe; Regal can promptly respond to all technical inquiries our customers may have including specification review, custom design needs, 3D STEP files and application review.

## PMG EXCITATION SUPPORT SYSTEMS - OPTIONAL

When PMG excitation support is required, HARSH DUTY generators can be supplied with one of two PMG ready voltage regulators.

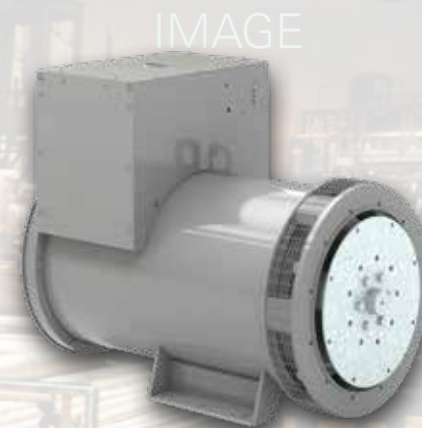
The proven Digital Voltage Regulator (DVR) provides ¼ % voltage regulation utilizing the isolated PMG power supplier to assure maximum motor starting capacity and reliable voltage output independent of the load on the generator. The DVR also offers 14 different protective features, many customizable to your specific application, 300% short circuit support and many other features to ensure long, reliable service life.

The PM500 provides advanced voltage regulation and generator protection in a robust, analog package. With ¼ % voltage regulation, the PM500 provides superior, full-wave dynamic performance, maximum motor starting capability, 300% short circuit support and 6 different protective features in an easy-to-use analog control package.

## HARSH DUTY INSULATION - WHEN FAILURE IS NOT AN OPTION

Standard insulation systems are designed for operation in clean and dry environments. Most industrial environments include high levels of moisture, dust, sand, grit or other air-borne contaminants in the ambient conditions. These harsh industrial conditions may drastically reduce the service life of a standard insulation system.

Marathon® HARSH DUTY generators with toroidally wrapped exciter stators and all windings top coated with two component anti-tracking varnish are designed to perform in these harsh industrial environments. Toroidally wrapped fiberglass tape provides the ultimate in protection against dust, sand, grit and other particulate matter in the air-stream. Marathon's two component anti-tracking, top coat varnish, applied to all HARSH DUTY windings, provides maximum protection against moisture and other air-borne contaminants.



## HARSH DUTY APPLICATIONS DEMAND HARSH DUTY GENERATORS

- Quarry and Aggregate Pits
- Mining
- Barges
- Chemical Plants
- Heavy Industrial Plants
- Any application within 50 miles of coastline
- Rental / Construction Sites
- Motion Picture Industry
- Oil & Gas Field Operations
- Refineries
- Irrigation / Agricultural
- Off-Shore Platforms

Base Model	Net Wt. (lbs.)	No. of Leads	Standard Regulator	PMG Available	480V kW Ratings at 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
282PSL28043	295	12	SE350E	Yes	17	20	21	21	22
283PSL28045	366	12	SE350E	Yes	25	30	33	33	35
284PSL28047	436	12	SE350E	Yes	32	36	40	40	45
361PSL3120	518	12	SE350E	Yes	40	45	48	48	50
361PSL3121	569	12	SE350E	Yes	49	55	60	60	65
361PSL3122	620	12	SE350E	Yes	58	65	70	70	76
362PSL3124	706	12	SE350E	Yes	75	84	90	90	95
362PSL3126	796	12	SE350E	Yes	80	96	105	105	113
363PSL3127	943	12	SE350E	Yes	110	125	135	135	150
364PSL3129	1096	12	SE350E	Yes	135	160	180	180	185
431PSL6252	1220	12	SE350E	Yes	125	142	151	155	160
431PSL6254	1310	12	SE350E	Yes	143	170	180	181	190
431PSL6256	1415	12	SE350E	Yes	165	200	211	215	225
431PSL6258	1455	12	SE350E	Yes	180	211	226	230	240
432PSL6260	1685	12	SE350E	Yes	220	260	275	280	291
432PSL6262	1760	12	SE350E	Yes	230	275	300	300	310
433PSL6266	2235	12	SE350E	Yes	280	342	375	380	400
433PSL6270	2245	12	SE350E	Yes	310	375	403	415	430
572RSL6325	2730	12	DVR2400	Std	380	450	475	475	505
572RSL6327	2840	12	DVR2400	Std	440	500	515	515	560
572RSL6329	3050	12	DVR2400	Std	445	535	560	560	610
572RSL6331	3110	12	DVR2400	Std	485	575	600	600	645
573RSL6333	3400	12	DVR2400	Std	570	680	700	700	765
573RSL6335	3620	12	DVR2400	Std	585	710	750	750	810
574RSL6337	4080	12	DVR2400	Std	670	800	825	825	900

Base Model	Net Wt. (kgs.)	No. of Leads	Standard Regulator	PMG Available	400V kVA and kW Ratings at Designated NEMA Rise					
					NEMA F Cont. 105°C R/R		NEMA H Cont. 125°C R/R		NEMA H Standby 150°C R/R	
					kVA	kW	kVA	kW	kVA	kW
282PSL28043	134	12	SE350E	Yes	17.5	14	20	16	21.3	17
283PSL28045	166	12	SE350E	Yes	26	21	30	24	32	26
284PSL28047	198	12	SE350E	Yes	33	27	38	31	41	33
361PSL3120	234	12	SE350E	Yes	44	36	48	38	51	41
361PSL3121	258	12	SE350E	Yes	52	42	57	46	61	49
361PSL3122	281	12	SE350E	Yes	63	50	68	54	75	60
362PSL3124	320	12	SE350E	Yes	81	65	88	70	94	75
362PSL3126	361	12	SE350E	Yes	94	75	100	80	110	88
363PSL3127	427	12	SE350E	Yes	113	90	130	104	133	106
364PSL3129	497	12	SE350E	Yes	156	125	169	135	180	144
431PSL6252	553	12	SE350E	Yes	141	113	150	120	160	128
431PSL6254	594	12	SE350E	Yes	165	132	175	140	185	148
431PSL6256	641	12	SE350E	Yes	193	154	206	165	220	176
431PSL6258	659	12	SE350E	Yes	210	168	225	180	235	188
432PSL6260	764	12	SE350E	Yes	251	201	270	216	285	228
432PSL6262	798	12	SE350E	Yes	271	217	300	240	306	245
433PSL6266	1013	12	SE350E	Yes	331	265	360	288	385	308
433PSL6270	1018	12	SE350E	Yes	368	294	400	320	420	336
572RSL6325	1239	12	DVR2400	Std	450	360	475	380	506	405
572RSL6327	1289	12	DVR2400	Std	494	395	519	415	550	440
572RSL6329	1384	12	DVR2400	Std	531	425	569	455	600	480
572RSL6331	1411	12	DVR2400	Std	563	450	600	480	638	510
573RSL6333	1543	12	DVR2400	Std	688	550	725	580	763	610
573RSL6335	1642	12	DVR2400	Std	706	565	750	600	794	635
574RSL6337	1851	12	DVR2400	Std	794	635	850	680	894	715

\*NEMA is a trademark or tradename of National Electrical Manufacturers Association and is not owned by, or under the control of Regal Beloit Corporation.

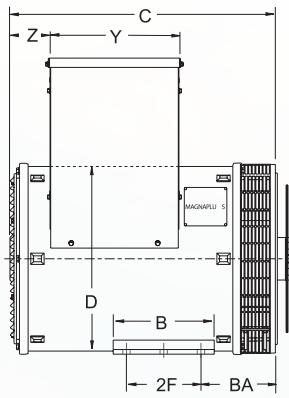


# DIMENSIONS IN INCHES AND (MILLIMETERS)

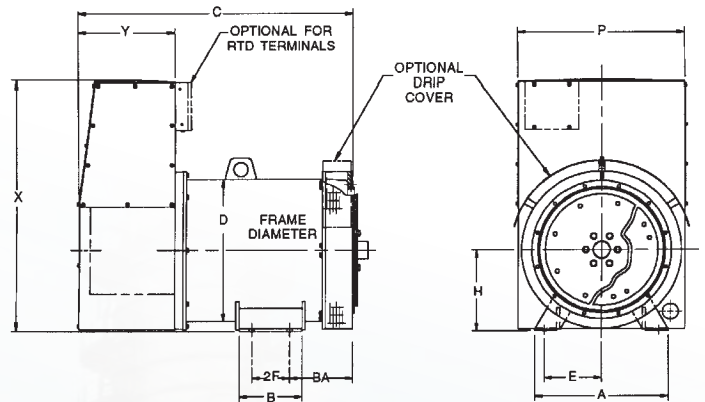
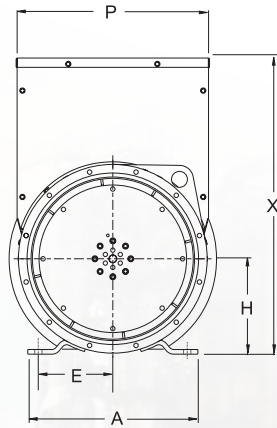
**HARSH DUTY**

ALL DIMENSIONS ARE APPROXIMATE. Contact Regal for full dimensional data.

(please see last page for the contact details).



280-430 frame



570 frame

Frame size	A	B	BA	C	C with PMG	D	E	2F	H	P	X	Y	Z
282PSL	14.00 (356)	7.00 (178)	6.56 (167)	18.50 (470)	23.10 (587)	13.64 (346)	6.25 (159)	5.00 (127)	8.00 (203)	13.55 (344)	18.56 (471)	8.93 (227)	3.42 (87)
283PSL	14.00 (356)	7.00 (178)	6.56 (167)	20.50 (521)	25.10 (638)	13.64 (346)	6.25 (159)	5.00 (127)	8.00 (203)	13.55 (344)	18.56 (471)	8.93 (227)	3.42 (87)
284PSL	14.00 (356)	7.00 (178)	6.56 (167)	22.75 (578)	27.40 (696)	13.64 (346)	6.25 (159)	5.00 (127)	8.00 (203)	13.55 (344)	18.56 (471)	8.93 (227)	3.42 (87)
285PSL	14.00 (356)	7.00 (178)	11.56 (294)	25.00 (635)	29.60 (752)	13.64 (346)	6.25 (159)	5.00 (127)	8.00 (203)	13.55 (344)	18.56 (471)	8.93 (227)	3.42 (87)
361PSL	16.00 (406)	9.50 (241)	7.00 (178)	24.96 (634)	27.56 (700)	17.35 (441)	7.00 (178)	7.00 (178)	9.00 (229)	18.19 (462)	27.85 (707)	12.44 (316)	3.52 (89)
362PSL	16.00 (406)	9.50 (241)	7.00 (178)	28.59 (726)	31.18 (792)	17.35 (441)	7.00 (178)	7.00 (178)	9.00 (229)	18.19 (462)	27.85 (707)	12.44 (316)	3.52 (89)
363PSL	16.00 (406)	9.50 (241)	10.50 (267)	31.72 (806)	34.29 (871)	17.35 (441)	7.00 (178)	7.00 (178)	9.00 (229)	18.19 (462)	27.85 (707)	12.44 (316)	3.52 (89)
364PSL	16.00 (406)	9.50 (241)	10.50 (267)	34.92 (887)	37.28 (947)	17.35 (441)	7.00 (178)	7.00 (178)	9.00 (229)	18.19 (462)	27.85 (707)	12.44 (316)	3.52 (89)
431PSL	21.46 (545)	15.00 (381)	10.00 (254)	33.89 (861)	38.27 (972)	22.64 (575)	9.00 (229)	11.00 (279)	13.00 (330)	24.97 (634)	36.10 (917)	16.00 (406)	2.66 (68)
432PSL	21.46 (545)	15.00 (381)	10.00 (254)	37.39 (950)	41.77 (1061)	22.64 (575)	9.00 (229)	11.00 (279)	13.00 (330)	24.97 (634)	36.10 (917)	16.00 (406)	2.66 (68)
433PSL	21.46 (545)	15.00 (381)	10.00 (254)	42.39 (1077)	46.77 (1188)	22.64 (575)	9.00 (229)	11.00 (279)	13.00 (330)	24.97 (634)	36.10 (917)	16.00 (406)	2.66 (68)
572RSL	22.50 (572)	15.00 (381)	11.50 (292)	n/a	51.52 (1308)	27.64 (702)	10.00 (254)	11.00 (279)	15.50 (394)	30.77 (782)	42.64 (1083)	17.21 (437)	n/a
573RSL	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)	
574RSL	22.50 (572)	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)	

Must have minimum clearance of 6 inches for air flow in to the generator. Additional clearance may be required for servicing.

280 - 430 frame sizes equipped with linkboard as standard.

See website for 2 bearing dimensions.



**marathon**<sup>®</sup>  
Generators

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**APPLICATION CONSIDERATIONS**

The proper selection and application of products and components, including the related area of product safety, is the responsibility of the customer. Operating and performance requirements and potential associated issues will vary appreciably depending upon the use and application of such products and components. The scope of the technical and application information included in this publication is necessarily limited. Unusual operating environments and conditions, lubrication requirements, loading supports, and other factors can materially affect the application and operating results of the products and components and the customer should carefully review its requirements. Any technical advice or review furnished by Regal Beloit America, Inc. and/or its affiliates ("Regal") with respect to the use of products and components is given in good faith and without charge, and Regal assumes no obligation or liability for the advice given, or results obtained, all such advice and review being given and accepted at customer's risk.

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