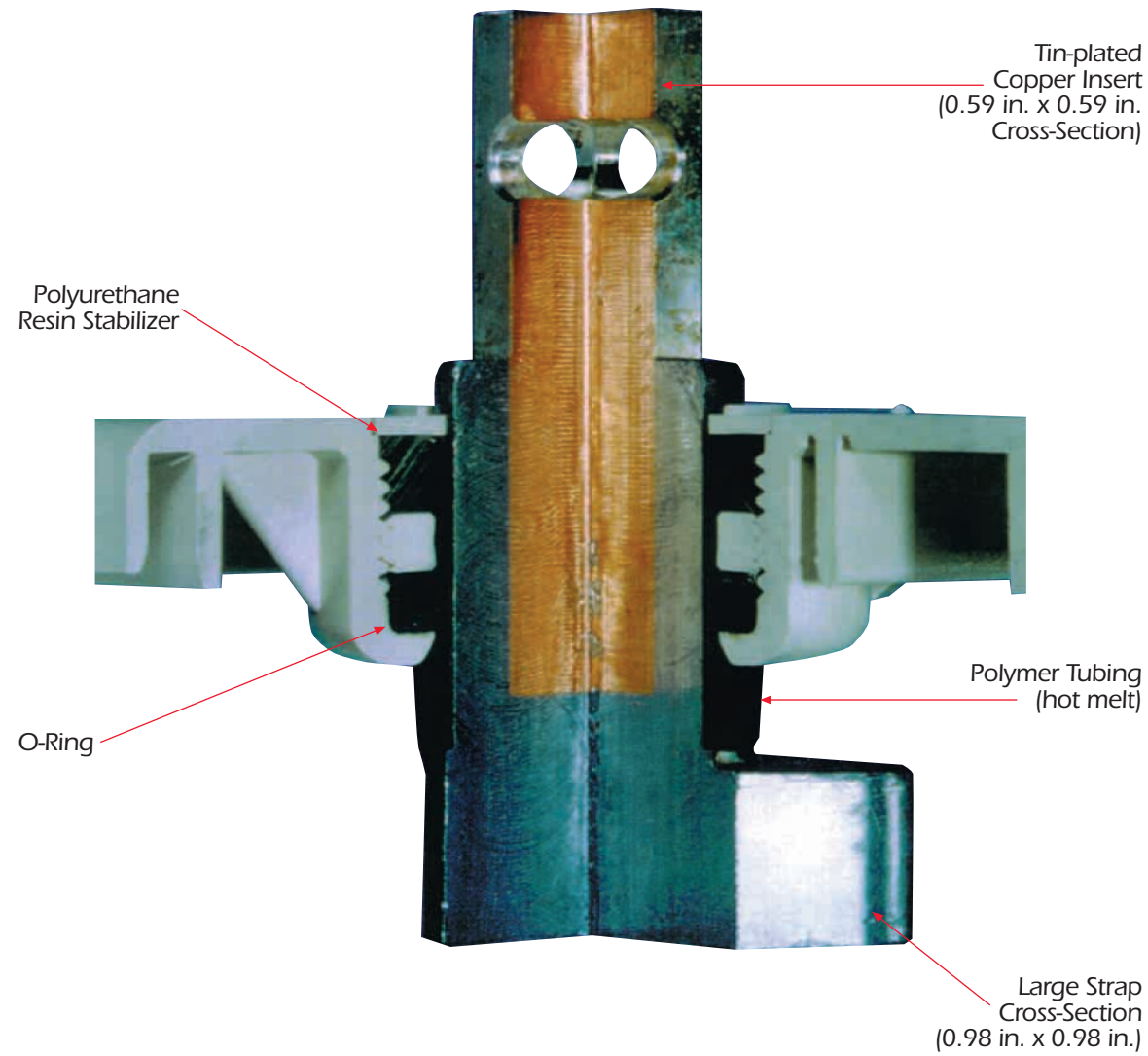


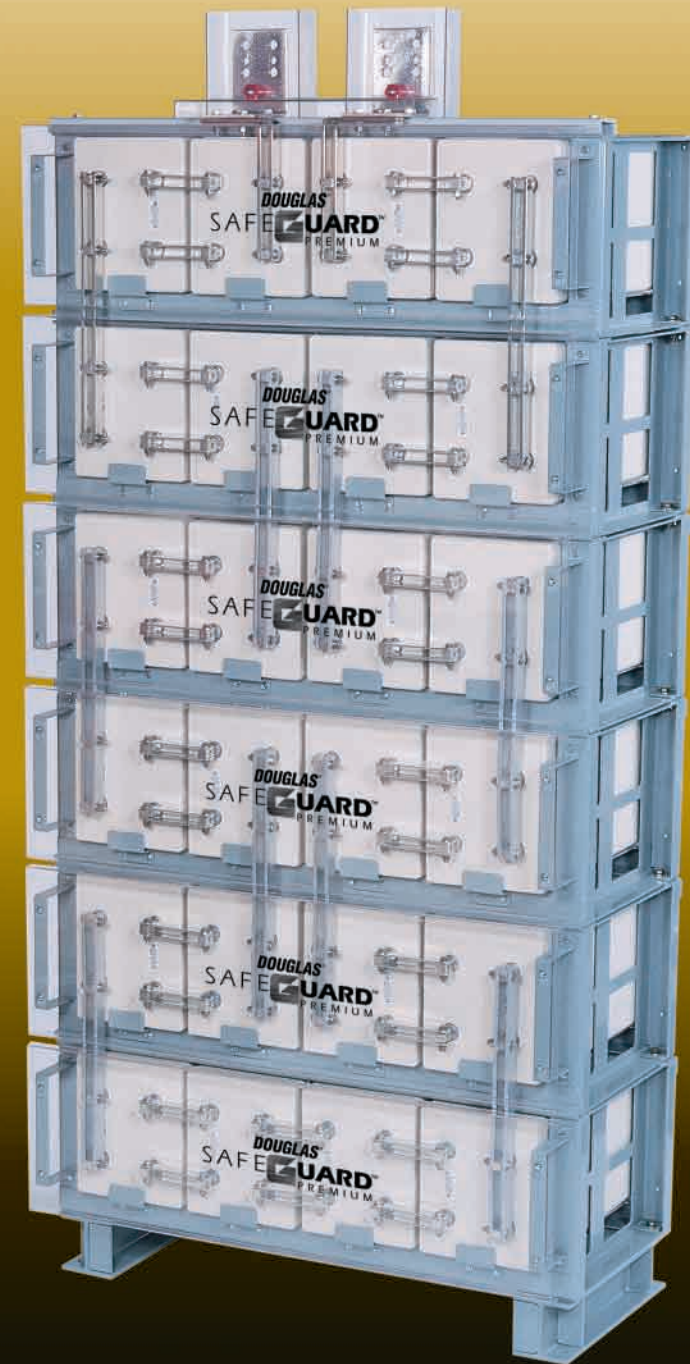
DOUGLAS SAFEGUARD™ PREMIUM

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Features Heavy-Duty Post Construction
and Triple Barrier Post Seal



DOUGLAS® SAFEGUARD™ PREMIUM



**THE ULTIMATE IN
MODULAR STANDBY POWER SYSTEMS.**



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M-0529 Eff. 5-99



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450 - 1000 Ah
1.358 - 3.210 KW/Cell

DOUGLAS® SAFEGUARD™ PREMIUM

DOUGLAS® SAFEGUARD™ PREMIUM OFFERS THE ULTIMATE in modular standby power systems. The Safeguard Premium series of valve-regulated, lead-acid batteries is housed in steel racks that can be stacked 6 or 8 high and meet Zone 4 seismic requirements. Safeguard Premium batteries are installed horizontally and provide up to 60% more energy per unit volume than conventional batteries. Our 2-Volt cells provide you a capacity range from 450 to 1,000 Ah, with a design life of 15+ years under recommended operating conditions. Each jar and cover is constructed of flame-retardant UL94 V0 halogen-free PC/ABS plastic, with a LOI of 32%. The thick wall PC/ABS construction eliminates the need for compression, reducing total weight and providing greater installation flexibility.



DESIGN FEATURES:

- Post Seal.** Triple barrier seal eliminates acid leaks and post movement.
- Terminal Post.** Large cross section, heavy-duty post with copper insert allows for very high discharge currents.
- Plates.** Thick, pasted construction for both positive and negative plates, with special lead/calcium/tin alloy. Resists corrosion for up to 15 years life at 68° F (20° C).
- Separators.** High-quality microporous glass fibers facilitate gas diffusion, optimize acid absorption and have lower electrical resistance. Low internal resistance, high-energy density, separator maintains compression throughout life, giving excellent vibration resistance.
- Electrolyte.** High-purity sulfuric acid absorbed in separator has 1.280 SG. No acid spill, easy to handle and install, supplied filled and charged, no acid handling.
- Float Voltage.** Douglas Safeguard batteries provide optimum performance when float charged at 2.25 ± 1% Vpc for temperatures between 59° and 77°F (15° and 25°C). For installations where the battery will operate for extended periods outside this range, it is recommended that the float voltage be adjusted 1 to 2 mV/cell/°F (2 to 4 mV/cell/°C).
- Safety Valve.** Every cell has its own one-way valve which operates between 1.45 – 2.20 psi for safety in the event of abusive operating conditions. Valve-regulated operation, with controllable internal pressure for safety and reliability and very low maintenance in service.
- Flame Arrestor.** Built-in above every safety valve. Maximum safety in the event of abusive discharge.
- Container and Cover.** Made of thick wall PC/ABS with high mechanical strength and impact resistance. Non-toxic, non-halogenated flame retardant to UL 94 V0, LOI 32%. Non-clamped installation allows air circulation for environmental control and optimum service life. In the event of fire, non-toxic materials offer personnel safety.
- Inter-cell Connectors and Top Termination.** Heavy-duty tin-plated copper connectors minimize voltage drop in battery circuits. Connections do not require torque maintenance nor grease (NO-OX).
- Storage.** The shelf life of Douglas Safeguard batteries is affected by temperature. The lower the storage temperature, the longer the shelf life. At 77°F (25°C) batteries lose about 3% capacity per month.

TECHNICAL SPECIFICATIONS

Cell Dimensions

Item Number	Type	Nominal Capacity ¹ (Ah)	Cell Dimensions						Weight	
			Length		Width		Height		lb.	kg
			in.	mm	in.	mm	in.	mm		
24036	DGP2-450	450	4.9	124	8.1	206	20.0	507	75.0	34.0
24037	DGP2-550	550	8.1	206	5.7	145	20.0	507	93.7	42.5
24038	DGP2-650	650	8.1	206	6.5	166	20.0	507	108.0	49.0
24039	DGP2-800	800	8.3	210	10.0	254	20.0	507	134.5	61.0
24040	DGP2-900	900	8.3	210	10.0	254	20.0	507	147.7	67.0
24041	DGP2-1000	1,000	8.3	210	10.0	254	20.0	507	163.1	74.0

1 - Based on 8-hour rate to 1.75 Vpc @ 77°F (25°C)

Module Physical Dimensions

Type	Cells per Module	Module Dimensions						Weight	
		Width		Depth		Height ²		lb.	kg
		in.	mm	in.	mm	in.	mm		
3-DGP2-450	3	29.6	752	21.3	541	7.3	185	271.9	123.3
3-DGP2-550	3	29.6	752	21.3	541	8.1	206	329.1	149.3
3-DGP2-650	3	29.6	752	21.3	541	8.9	226	373.1	169.2
4-DGP2-800	4	38.8	984	21.3	540	12.4	315	594.9	269.9
4-DGP2-900	4	38.8	984	21.3	540	12.4	315	647.8	293.9
4-DGP2-1000	4	38.8	984	21.3	540	12.4	315	709.6	321.9

2 - Add 4.0 in. (101.6 mm) for base and 7.0 in. (76.2 mm) for top-termination to obtain overall height.

Performance Specifications

Discharge Rates in Amperes @ 77°F (25°C)

Type	1.75 Vpc															
	Minutes					Hours										
	1	5	10	15	30	1	1.5	2	3	4	5	6	8	10	12	24
DGP2-450	1006	934	794	683	479	305	222	179	131	104	86.2	73.9	57.5	47.0	39.6	19.3
DGP2-550	1370	1250	1054	900	622	389	280	224	161	127	105	89.6	69.8	57.4	48.7	25.2
DGP2-650	1621	1474	1240	1060	733	459	332	265	191	149	125	106	82.7	67.8	57.5	29.5
DGP2-800	1944	1777	1501	1286	895	563	408	325	235	185	153	131	102	83.5	70.7	35.7
DGP2-900	2233	2042	1718	1468	1019	640	461	368	264	207	171	146	114	94.0	80.1	43.3
DGP2-1000	2425	2222	1874	1608	1123	709	514	410	295	232	192	164	128	104	88.9	47.4

Discharge Rates in Watts/Cell @ 77°F (25°C)

Type	1.67 Vpc															
	Minutes					Hours										
	1	5	10	15	30	1	1.5	2	3	4	5	6	8	10	12	24
DGP2-450	2065	1902	1594	1358	941	593	431	344	249	197	164	141	110	91.7	78.3	43.3
DGP2-550	2787	2510	2086	1767	1208	751	542	433	311	245	203	174	135	110	93.7	46.4
DGP2-650	3295	2967	2466	2089	1428	888	641	511	369	290	241	206	161	132	111	56.7
DGP2-800	4023	3648	3029	2568	1761	1098	792	630	453	356	295	252	197	162	138	74.2
DGP2-900	4528	4104	3409	2890	1982	1234	890	709	509	401	332	284	221	183	156	84.5
DGP2-1000	5029	4560	3787	3210	2202	1372	990	788	565	445	369	315	246	202	172	92.7

All data subject to change without notice.

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