

40 - 170 Ah  
180 - 627 Watts per Cell

# DOUGLAS SAFE GUARD<sup>®</sup> DSN

**For More Demanding Power Requirements,** Douglas Safeguard<sup>®</sup> DSN series of valve-regulated, lead-acid batteries provides high performance and reliability in a 19 or 23-inch relay rack design. The Rackline 12-Volt unit is designed for maximum power in a minimal footprint. Each jar and cover is constructed of flame-retardant UL94 V0 halogen-free PC/ABS plastic, with a LOI of 28%.

The insulated front terminals and connectors are accessible through a hinged inspection flap on the cover. DSN provides you a capacity range from 40 Ah to 170 Ah, with a design life of 10+ years under recommended operating conditions.



## DESIGN FEATURES:

- **Post Seal.** Double barrier seal eliminates acid leaks and post movement.
- **Terminal Post.** Large brass insert allows for very high discharge currents.
- **Plates.** Thick, pasted construction for both positive and negative plates, with special lead/calcium/tin alloy.
- **Separators.** High-quality micro-glass fiber mat with polyester synthetic addition to facilitate gas diffusion, optimize acid absorption and 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. No acid spill, easy to handle and install, supplied filled and charged, no acid handling. No watering or hydrometer reading which cuts maintenance expense.
- **Float Voltage.** Douglas Safeguard<sup>®</sup> batteries provide optimum performance when float charged at  $2.27 \pm 1\%$  VPC at 77°F (25°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 charging.
- **Container and Cover.** Made of thick wall PC/ABS with high mechanical strength and impact resistance. Non-toxic, non-halogenated flame retardant to UL94 V0, LOI 28%. 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/unit Connectors.** Heavy-duty tinned copper connectors minimize voltage drop in battery circuits. Connections do not require torque maintenance or grease (NO-OX).
- **Storage.** The shelf life of Douglas Safeguard<sup>®</sup> 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.

DOUGLAS SAFEGUARD<sup>®</sup>  
DSN

  
**DOUGLAS BATTERY**  
Connect with a leader

## Product Specifications

	Type	Ah	Dimensions						Weight	
			Length		Width		Height		lb.	kg
			in.	mm	in.	mm	in.	mm		
<b>Top Terminal</b>	DSN 12-40	39.5	7.76	197.1	6.50	165.1	6.93	176.0	35.4	17
	DSN 12-70	65.4	13.02	330.7	6.50	165.1	6.93	176.0	57.1	27.4
	DSN 12-75	62.6	10.27	260.8	6.80	172.7	7.89	200.4	58.1	27.9
	DSN 12-90	96.2	13.42	340.8	6.80	172.7	8.39	213.1	76.7	36.8
	DSN 12-125	129.2	13.57	344.7	6.80	172.7	10.81	274.6	104.2	50
<b>Front Access</b>	DSN 12-60F	57.9	11.30	287.0	4.24	107.6	10.35	263.0	46.2	22.2
	DSN 12-90F	87.8	15.59	396.0	4.24	107.6	10.04	255.0	70.6	33.9
	DSN 12-100F	100.5	15.59	396.0	4.24	107.6	11.30	287.0	77.7	37.3
	DSN 12-110F	109.9	22.05	560.0	4.92	125.0	8.94	227.0	86.4	41.5
	DSN 12-170F	170.8	22.05	560.0	4.92	125.0	12.60	320.0	129.6	62.2

Ah is based on 8 hr. rate to 1.75 Vpc @ 77°F (25°C).  
Weight may vary +/-5%.

## Performance Specifications

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

1.75 End VPC													
Type	Minutes					Hours							
Top Terminal	2	5	15	30		1	2	3	4	5	8	10	20
DSN 12-40	292.4	185.1	119.4	89.6	52.6	29.7	16.4	11.5	9.0	7.4	4.9	4.1	2.3
DSN 12-70	482.7	305.5	199.4	151.1	90.3	51.6	28.5	19.9	15.4	12.6	8.2	6.7	3.5
DSN 12-75	422.1	284.5	190.7	145.7	87.6	50.0	27.5	19.1	14.8	12.0	7.8	6.4	3.4
DSN 12-90	525.2	362.9	251.1	196.1	122.6	72.7	41.2	29.1	22.6	18.5	12.0	9.8	5.1
DSN 12-125	627.8	461.5	330.6	262.4	167.2	100.1	56.8	39.9	30.8	25.1	16.1	13.0	6.6
<b>Front Access</b>													
DSN 12-60F	342.6	218.3	146.1	112.9	70.2	41.9	24.1	17.2	13.4	11.0	7.2	5.9	3.1
DSN 12-90F	547.7	363.4	243.9	187.4	114.2	66.4	37.2	26.2	20.4	16.7	11.0	9.0	4.8
DSN 12-100F	580.7	386.0	262.4	203.7	126.6	75.0	42.7	30.2	23.5	19.2	12.6	10.2	5.3
DSN 12-110F	678.6	460.5	309.5	237.0	143.0	82.3	45.8	32.3	25.1	20.7	13.7	11.3	6.3
DSN 12-170F	820.3	564.2	393.8	310.4	198.0	120.2	69.9	50.1	39.2	32.4	21.4	17.5	9.2

### Watts per Cell Discharge Rates @ 77°F (25°C)

1.67 End VPC													
Type	Minutes												
Top Terminal	2	5	10	15	20	30	45	60	120	180	240	300	480
DSN 12-40	597.4	372.5	239.5	180.0	145.4	106.2	76.6	60.4	33.5	23.6	18.4	15.1	10.1
DSN 12-70	903.8	605.5	405.3	309.9	252.8	186.5	135.3	106.7	58.8	41.0	31.6	25.8	16.7
DSN 12-75	874.7	605.1	406.7	309.9	251.6	184.2	132.3	103.6	56.2	38.9	29.9	24.3	15.8
DSN 12-90	1090.1	745.8	513.1	399.8	330.8	249.1	184.4	147.4	83.6	59.0	45.8	37.5	24.5
DSN 12-125	1232.8	934.1	677.5	539.7	451.9	344.6	256.8	205.9	116.4	81.6	62.9	51.2	32.9
<b>Front Access</b>													
DSN 12-60F	663.8	429.5	290.2	225.4	186.6	141.1	105.2	84.7	48.9	34.9	27.3	22.5	14.8
DSN 12-90F	1104.0	731.6	490.8	377.0	309.0	229.8	168.3	133.8	75.1	53.0	41.2	33.8	22.3
DSN 12-100F	1143.3	776.6	532.2	413.9	342.1	257.2	190.1	151.9	86.0	60.7	47.1	38.5	25.1
DSN 12-110F	1373.6	929.6	624.3	477.9	390.2	288.5	209.8	166.0	92.4	65.0	50.6	41.6	27.6
DSN 12-170F	1564.1	1117.0	791.5	626.7	524.0	400.4	300.3	242.3	140.1	99.9	78.1	64.2	42.3

