MARATHON



SPECIFICATIONS

Top Terminal Batteries



INDUSTRIAL POWER

MARATHON

From the World Leader in VRLA Battery Technology

Designed for durability in Telecommunications and Electric Utility applications, the GNB **TOP Terminal** $MARATHON^{TM}$ series provides high performance and reliability in long duration discharge applications. The $MARATHON^{TM}$ family of batteries highlights another example of GNB's extensive experience and world wide leadership in VRLA technology.

"Designed in" Quality Manufacturing

Quality manufacturing processes for the $MARATHON^{\text{TM}}$ series batteries incorporate the industry's most advanced technologies including: an automated helium leak detection system, a computer controlled "fill by weight" acid filler, and a temperature controlled water bath formation process. Each and every unit is capacity tested.

High Performance MARATHON™ Series Features

- Standard: Reinforced polypropylene container and cover
- Optional:Flame-retardant reinforced container and cover compliant with UL94 V-0, 28% L.O.I.
- Integrated Flash-arrester ultrasonically welded into cover.
- Patented "Diamond Side-Wall" design to maintain structural integrity in higher operating temperatures
- Heat sealed case-to-cover bond to ensure a leak proof seal
- High-Compression Absorbent Glass Mat (AGM) technology for greater than 99% recombination efficiency
- High-tin, calcium, silver, lead positive plate design for maximum service float life; 10 year design life @ 25°C (77°F)
- Heavy duty copper alloy terminals for ease of assembly and reduced maintenance
- Reliable one-way, self-resealing safety vents
- Multicell design for faster installation and reduced maintenance
- Horizontal or vertical operation
- Removable carry handles for ease of installation.

Applications

MARATHON™ series batteries incorporate GNB's advanced VRLA technology designed for long life and high performance in:

Telecommunications

- Distributed Power
- PCS
- Cellular
- Broadband

Electric Utility

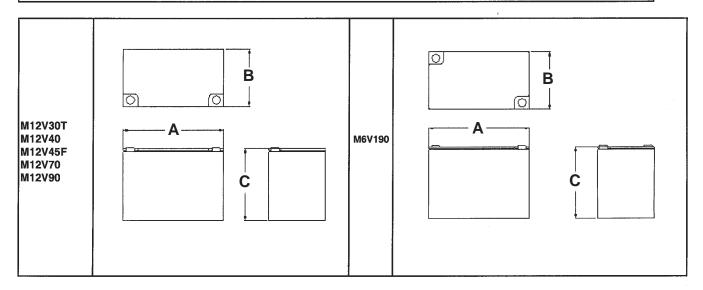
- Switchgear Control Power
- Communications



MARATHONTM Specifications

		Capac	ity (AH)		No	minal D	imensio	ons		Non	ninal
Model					Inches		M	illimete	rs	We	ight
		8 Hr To 1.75	10 hr To 1.80				_	_			
Number [#]	Voltage	VPC @ 25°C	VPC @ 20°C	Α	В	*C	Α	В	*C	ibs.	Kg
M12V30T*	12	28	28	6.75	5.13	6.90	171	130	175	24	10.7
M12V40	12	40	37	7.81	6.58	7.01	198	167	178	39	17.8
M12V45F [%]	12	46	45	8.68	4.78	9.58	220	121	243	38	17.5
M12V70	.12	72	71	10.25	6.85	8.80	260	174	224	61	27.8
M12V90	12	90	88	12.05	6.85	8.80	306	174	224	72	32.8
M6V190	6	190	186	12.05	6.85	8.80	306	174	224	74	33.5

^{*} Bolt, washer, and connector typically increase height by 0.45 in. (11 mm)



Float Voltage & Charging

Constant Voltage charging is recommended

Recommended float voltage: 2.27 VPC @ 25°C (77°F)

Float Voltage Range: 2.25 to 2.30 VPC @ 25°C (77°F)

Equalize voltage: 2.35 VPC for 24 Hours

MARATHON[™] Electrical Data

Model Number	Short Circuit Current (Amps)	Internal Resistance (mOhms)
M12V30T	1576	7.7
M12V40	2341	5.3
M12V45F	2162	5.4
M12V70	3271	3.7
M12V90	3365	3.7
M6V190	6343	1.0

[#] Add suffix "F" to model number for flame retardant version OPTION % Available in flame retardant version ONLY

MARATHONTM Performance Specifications Amperes @ 25°C (77°F)

1.75 Final VPC

Model								Time							
Number	24 hr	12 hr	10 hr	9 hr	8 hr	7 hr	6 hr	5 hr	4 hr	3 hr	2.5 hr	2 hr	1.5 hr	1 hr	0.5 hr
M12V30T	1.3	2.5	2.9	3.2	3.6	4.1	4.7	5.5	6.6	8.4	9.8	11.9	15.1	21.2	36.9
M12V40(F)	1.7	3.4	4.1	4.4	5.0	5.6	6.4	7.6	9.3	11.9	14.0	16.9	21.5	30.5	51.3
M12V45F	2.1	4.0	4.7	5.2	5.8	6.5	7.5	8.7	10.6	13.5	15.8	19.1	24.0	33.2	57.8
M12V70(F)	3.2	6.2	7.4	8.2	9.1	10.1	11.6	13.4	16.2	20.6	24.0	28.9	36.8	51.6	90.8
M12V90(F)	4.2	7.8	9.2	10.1	11.2	12.7	14.3	16.7	20.2	25.9	30.2	36.5	46.6	65.7	107.0
M6V190(F)	9.1	16.6	19.5	21.4	23.7	26.7	30.6	35.9	43.7	56.0	65.6	79.5	102.0	144.9	246.0

1.78 Final VPC

	Model								Time							
	Number	24 hr	12 hr	10 hr	9 hr	8 hr	7 hr	6 hr	5 hr	4 hr	3 hr	2.5 hr	2 hr	1.5 hr	1 hr	0.5 hr
	M12V30T	1.3	2.4	2.9	3.2	3.6	4.1	4.7	5.4	6.6	8.3	9.7	11.7	14.9	21.0	36.6
	M12V40(F)	1.7	3.4	4.0	4.3	4.9	5.5	6.3	7.5	9.2	11.8	13.9	16.8	21.3	30.2	50.7
ı	M12V45F	2.1	4.0	4.7	5.2	5.7	6.5	7.5	8.7	10.5	13.5	15.7	18.9	23.8	32.9	57.0
	M12V70(F)	3.2	6.2	7.4	8.1	9.0	10.0	11.4	13.3	16.0	20.4	23.8	28.7	36.5	51.3	90.0
	M12V90(F)	4.1	7.7	9.1	10.0	11.2	12.6	14.2	16.6	20.0	25.5	29.8	36.0	45.9	64.7	105.2
	M6V190(F)	9.0	16.5	19.4	21.2	23.6	26.5	30.3	35.6	43.3	55.5	65.0	78.8	101.1	143.5	241.6

1.80 Final VPC

Model	l							Time							
Number	24 hr	12 hr	10 hr	9 hr	8 hr	7 hr	6 hr	5 hr	4 hr	3 hr	2.5 hr	2 hr	1.5 hr	1 hr	0.5 hr
M12V30T	1.3	2.4	2.9	3.2	3.6	4.0	4.6	5.4	6.5	8.3	9.6	11.6	14.8	20.8	36.0
M12V40(F)	1.7	3.4	4.0	4.3	4.9	5.5	6.3	7.5	9.2	11.8	13.8	16.7	21.2	30.0	50.0
M12V45F	2.1	3.9	4.7	5.1	5.7	6.4	7.4	8.6	10.4	13.3	15.5	18.8	23.6	32.5	56.0
M12V70(F)	3.2	6.2	7.4	8.0	8.9	9.9	11.3	13.2	15.9	20.3	23.6	28.5	36.3	51.0	89.0
M12V90(F)	4.1	7.7	9.1	10.0	11.1	12.5	14.1	16.5	19.9	25.3	29.5	35.7	45.5	64.0	103.3
M6V190(F)	8.9	16.4	19.2	21.1	23.4	26.3	30.1	35.3	43.0	55.0	64.3	77.9	99.9	142.0	236.5

1.81 Final VPC

Model								Time							
Number	24 hr	12 hr	10 hr	9 hr	8 hr	7 hr	6 hr	5 hr	4 hr	3 hr	2.5 hr	2 hr	1.5 hr	1 hr	0.5 hr
M12V30T	1.3	2.4	2.9	3.2	3.5	4.0	4.6	5.3	6.4	8.2	9.5	11.4	14.6	20.5	35.4
M12V40(F)	1.7	3.4	4.0	4.3	4.8	5.4	6.2	7.4	9.1	11.7	13.7	16.6	21.1	29.9	49.6
M12V45F	2.1	3.9	4.6	5.1	5.6	6.4	7.3	8.5	10.3	13.2	15.4	18.6	23.3	32.0	54.8
M12V70(F)	3.1	6.1	7.3	8.0	8.8	9.9	11.2	13.1	15.8	20.1	23.4	28.2	35.9	50.6	87.4
M12V90(F)	4.1	7.6	9.0	9.9	11.0	12.4	14.0	16.3	19.7	25.1	29.3	35.4	45.1	63.5	101.8
M6V190(F)	8.8	16.2	19.0	20.9	23.2	26.1	29.9	35.1	42.6	54.5	63.6	76.9	98.5	139.5	231.0

1.83 Final VPC

Model								Time	,						
Number	24 hr	12 hr	10 hr	9 hr	8 hr	7 hr	6 hr	5 hr	4 hr	3 hr	2.5 hr	2 hr	1.5 hr	1 hr	0.5 hr
M12V30T	1.2	2.4	2.8	3.1	3.5	3.9	4.5	5.2	6.3	8.0	9.4	11.3	14.4	20.2	34.8
M12V40(F)	1.6	3.3	3.9	4.2	4.7	5.3	6.1	7.3	9.0	11.6	13.6	16.4	20.9	29.5	48.5
M12V45F	2.0	3.8	4.5	5.0	5.6	6.3	7.3	8.4	10.2	13.0	15.2	18.3	22.9	31.4	53.5
M12V70(F)	3.1	6.0	7.1	7.9	8.8	9.8	11.1	12.9	15.6	19.9	23.2	27.9	35.6	50.1	85.6
M12V90(F)	4.0	7.5	8.9	9.8	10.8	12.2	13.8	16.1	19.4	24.7	28.8	34.8	44.3	62.4	100.3
M6V190(F)	8.6	16.0	18.8	20.7	23.0	25.9	29.6	34.8	42.2	53.7	62.7	75.8	96.8	136.5	224.3

MARATHONTM Performance Specifications Amperes @ 25° C (77°F)

1.85 Final VPC

Model								Time							
Number	24 hr	12 hr	10 hr	9 hr	8 hr	7 hr	6 hr	5 hr	4 hr	3 hr	2.5 hr	2 hr	1.5 hr	1 hr	0.5 hr
M12V30T	1.2	2.3	2.8	3.1	3.4	3.9	4.5	5.1	6.2	7.9	9.2	11.1	14.1	19.9	34.0
M12V40(F)	1.6	3.3	3.9	4.2	4.7	5.3	6.1	7.2	8.8	11.4	13.3	16.0	20.4	28.8	47.2
M12V45F	2.0	3.8	4.5	4.9	5.5	6.2	7.1	8.3	10.0	12.8	14.9	18.0	22.5	30.7	52.0
M12V70(F)	3.0	5.9	7.0	7.7	8.6	9.6	10.9	12.8	15.4	19.6	22.9	27.6	35.1	49.4	83.0
M12V90(F)	4.0	7.4	8.7	9.6	10.7	12.0	13.6	15.8	19.1	24.3	28.3	34.2	43.6	61.3	98.0
M6V190(F)	8.5	15.7	18.5	20.3	22.6	25.4	29.2	34.4	41.5	52.7	61.5	74.2	94.6	133.1	216.6

1.87 Final VPC

Mod	del								Time							
Num	nber	24 hr	12 hr	10 hr	9 hr	8 hr	7 hr	6 hr	5 hr	4 hr	3 hr	2.5 hr	2 hr	1.5 hr	1 hr	0.5 hr
M12V3	30T	1.2	2.3	2.7	3.0	3.3	3.7	4.3	5.0	6.0	7.6	8.9	10.7	13.7	19.3	33.0
M12V4	10(F)	1.6	3.1	3.6	4.0	4.5	5.1	5.8	6.9	8.4	10.9	12.7	15.4	19.5	27.3	44.6
M12V4	15F	2.0	3.7	4.3	4.8	5.3	6.0	6.9	8.0	9.7	12.4	14.5	17.5	21.8	29.6	49.5
M12V7	70(F)	3.0	5.7	6.8	7.5	8.3	9.3	10.6	12.4	14.9	18.9	22.0	26.6	33.8	47.4	78.6
M12V9	90(F)	3.9	7.2	8.5	9.3	10.3	11.6	13.1	15.3	18.5	23.5	27.4	33.0	41.9	58.8	93.7
M6V19	90(F)	8.2	15.2	17.9	19.7	21.8	24.6	28.2	33.1	40.0	50.8	59.2	71.3	90.7	127.3	204.3

1.90 Final VPC

	Model								Time							
N	lumber	24 hr	12 hr	10 hr	9 hr	8 hr	7 hr	6 hr	5 hr	4 hr	3 hr	2.5 hr	2 hr	1.5 hr	1 hr	0.5 hr
M1:	2V30T	1.1	2.2	2.6	2.8	3.1	3.6	4.1	4.7	5.7	7.2	8.4	10.2	13.0	18.3	31.0
M1:	2V40(F)	1.5	2.9	3.4	3.8	4.2	4.8	5.6	6.6	8.0	10.4	12.2	14.7	18.6	25.9	42.4
M1	2V45F	1.9	3.5	4.1	4.5	5.0	5.7	6.5	7.6	9.3	12.0	13.9	16.7	20.7	28.0	45.9
M1	2V70(F)	2.8	5.4	6.4	7.1	7.9	9.0	10.1	11.7	14.1	17.9	20.8	25.1	31.8	44.4	72.5
M1	2V90(F)	3.7	6.8	8.0	8.8	9.8	11.0	12.6	14.6	17.5	22.2	25.8	31.1	39.5	55.2	87.6
M6	V190(F)	7.8	14.5	17.0	18.7	20.8	23.4	26.8	31.5	37.8	47.9	55.7	67.0	84.9	118.7	187.8

1.92 Final VPC

Model	1							Time							
Number	24 hr	12 hr	10 hr	9 hr	8 hr	7 hr	6 hr	5 hr	4 hr	3 hr	2.5 hr	2 hr	1.5 hr	1 hr	0.5 hr
M12V30T	1.1	2.0	2.4	2.6	2.9	3.3	3.8	4.5	5.4	6.9	8.0	9.6	12.3	17.2	29.1
M12V40(F)	1.4	2.8	3.2	3.6	4.0	4.5	5.2	6.2	7.6	9.8	11.5	13.9	17.6	24.4	39.8
M12V45F	1.8	3.3	3.9	4.3	4.8	5.4	6.1	7.2	8.8	11.4	13.2	15.7	19.4	26.2	42.6
M12V70(F)	2.7	5.1	6.1	6.7	7.4	8.4	9.5	11.1	13.3	16.8	19.5	23.5	29.7	41.4	64.6
M12V90(F)	3.6	6.5	7.6	8.3	9.2	10.3	11.8	13.8	16.7	21.2	24.6	29.6	37.2	51.4	81.9
M6V190(F)	7.5	13.7	16.1	17.7	19.6	22.1	25.3	29.7	36.0	45.1	52.3	62.8	79.4	110.4	146.8

1.94 Final VPC

Model								Time							
Number	24 hr	12 hr	10 hr	9 hr	8 hr	7 hr	6 hr	5 hr	4 hr	3 hr	2.5 hr	2 hr	1.5 hr	1 hr	0.5 hr
M12V30T	1.0	1.9	2.2	2.5	2.8	3.1	3.6	4.2	5.1	6.4	7.5	9.0	11.5	16.1	26.8
M12V40(F)	1.3	2.5	3.0	3.3	3.7	4.2	4.9	5.7	7.0	9.1	10.7	12.9	16.3	22.5	36.7
M12V45F	1.7	3.1	3.7	4.1	4.5	5.1	5.8	6.8	8.3	10.8	12.4	14.8	18.2	24.5	39.4
M12V70(F)	2.5	4.8	5.7	6.3	7.0	8.0	9.0	10.4	12.5	15.8	18.3	21.9	27.6	38.4	54.9
M12V90(F)	3.3	6.1	7.1	7.8	8.7	9.7	11.1	13.0	15.8	20.2	23.5	28.2	35.1	47.8	76.4
M6V190(F)	7.0	13.0	15.3	16.7	18.6	20.9	23.9	28.1	33.5	42.3	49.0	58.6	73.8	102.3	128.6

 $MARATHON^{\scriptscriptstyle TM}\ Performance\ Specifications$ Watts per Cell @ 25°C (77°F)

> 1.75 Final VPC

Model				me								
Number	24 hr	12 hr	10 hr	9 hr	8 hr	6 hr	4 hr	3 hr	2 hr	1.5 hr	1 hr	0.5 hr
M12V30T	2.4	4.8	5.7	6.4	7.0	9.0	12.6	16.1	22.7	29.0	40.8	71.6
M12V40(F)	2.9	5.5	6.6	7.2	8.1	10.6	15.4	20.1	29.2	38.0	54.6	96.5
M12V45F	4.2	7.8	9.2	10.1	11.2	14.5	20.4	26.1	36.7	46.5	65.0	107.8
M12V70(F)	6.7	12.6	14.9	16.4	18.3	23.2	32.3	40.8	56.8	71.8	100.0	174.0
M12V90(F)	7.7	14.9	17.7	19.6	21.9	27.7	39.3	50.3	71.2	91.0	128.7	209.0
M6V190(F)	17.8	33.3	39.2	43.2	48.0	62.4	90.0	112.4	155.8	197.1	274.7	465.0

1.78 Final VPC

	Model		Time												
	Number	24 hr	12 hr	10 hr	9 hr	8 hr	6 hr	4 hr	3 hr	2 hr	1.5 hr	1 hr	0.5 hr		
	M12V30T	2.4	4.8	5.7	6.3	7.0	8.9	12.6	16.0	22.5	28.7	40.5	71.0		
3	M12V40(F)	2.8	5.5	6.5	7.2	8.1	10.5	15.3	20.0	29.1	37.8	54.3	96.0		
ı	M12V45F	4.1	7.7	9.1	10.0	11.2	14.5	20.3	25.9	36.4	46.2	64.5	106.6		
;	M12V70(F)	6.7	12.6	14.8	16.3	18.2	23.0	32.1	40.6	56.5	71.5	99.5	172.0		
	M12V90(F)	7.6	14.8	17.5	19.4	21.7	27.5	38.9	49.8	70.4	90.0	127.3	206.0		
	M6V190(F)	17.6	33.0	38.9	42.8	47.6	61.8	89.3	111.1	154.5	195.4	272.0	456.1		

1.80 Final VPC

Model		Time														
Number	24 hr	12 hr	10 hr	9 hr	8 hr	6 hr	4 hr	3 hr	2 hr	1.5 hr	1 hr	0.5 hr				
M12V30T	2.4	4.7	5.7	6.3	7.0	8.9	12.5	15.9	22.4	28.6	40.3	70.4				
M12V40(F)	2.8	5.5	6.5	7.2	8.0	10.5	15.3	19.9	29.0	37.6	54.0	95.1				
M12V45F	4.1	7.7	9.1	10.0	11.1	14.4	20.2	25.7	36.0	45.7	64.0	105.2				
M12V70(F)	6.7	12.5	14.8	16.2	18.1	23.0	31.9	40.4	56.2	71.0	98.9	170.0				
M12V90(F)	7.6	14.7	17.4	19.3	21.6	27.3	38.6	49.4	69.8	89.2	126.2	203.1				
M6V190(F)	17.5	32.8	38.7	42.5	47.3	61.4	88.7	110.4	153.4	193.7	269.0	447.1				

1.83 Final VPC

	Model		Time											
	Number	24 hr	12 hr	10 hr	9 hr	8 hr	6 hr	4 hr	3 hr	2 hr	1.5 hr	1 hr	0.5 hr	
	M12V30T	2.4	4.7	5.6	6.2	6.8	8.7	12.3	15.6	22.0	28.0	39.3	68.2	
3	M12V40(F)	2.8	5.5	6.5	7.2	8.0	10.4	15.2	19.8	28.7	37.3	53.3	93.5	
ıl	M12V45F	4.0	7.6	8.9	9.8	10.9	14.2	19.7	25.0	35.1	44.5	62.3	101.3	
	M12V70(F)	6.5	12.2	14.4	15.9	17.7	22.6	31.3	39.5	55.0	69.6	96.9	164.0	
	M12V90(F)	7.4	14.3	17.1	18.9	21.1	26.8	37.7	48.2	67.9	86.7	122.2	195.1	
	M6V190(F)	17.2	32.1	37.8	41.6	46.2	59.9	86.2	108.5	151.0	189.2	260.0	424.4	

MARATHONTM Performance Specifications Watts per Cell @ 25° C (77° F)

1.85 Final VPC

Model		Time														
Number	24 hr	12 hr	10 hr	9 hr	8 hr	6 hr	4 hr	3 hr	2 hr	1.5 hr	1 hr	0.5 hr				
M12V30T	2.4	4.6	5.5	6.1	6.8	8.6	12.1	15.4	21.7	27.6	38.8	67.2				
M12V40(F)	2.8	5.4	6.5	7.1	8.0	10.4	15.1	19.7	28.5	37.0	52.8	92.0				
M12V45F	4.0	7.4	8.8	9.7	10.8	14.0	19.4	24.6	34.5	43.7	60.9	98.7				
M12V70(F)	6.5	12.1	14.2	15.7	17.4	22.3	30.9	39.0	54.1	68.5	95.4	160.0				
M12V90(F)	7.3	14.1	16.8	18.6	20.8	26.4	37.1	47.3	66.6	84.9	119.6	190.0				
M6V190(F)	16.9	31.7	37.4	41.1	45.8	59.3	85.0	107.0	149.0	186.2	254.9	410.1				

1.87 Final VPC

Model		Time										
Number	24 hr	12 hr	10 hr	9 hr	8 hr	6 hr	4 hr	3 hr	2 hr	1.5 hr	1 hr	0.5 hr
M12V30T	2.3	4.5	5.4	5.9	6.6	8.4	11.7	14.9	20.9	26.6	37.4	64.4
M12V40(F)	2.8	5.4	6.4	7.1	7.9	10.3	14.9	19.4	28.1	36.3	51.4	89.3
M12V45F	3.9	7.2	8.5	9.4	10.4	13.5	18.8	23.8	33.3	42.2	59.0	94.8
M12V70(F)	6.3	11.7	13.8	15.2	16.9	21.5	30.0	37.9	52.9	66.9	93.3	154.9
M12V90(F)	7.1	13.7	16.2	17.9	20.1	25.6	36.0	45.8	64.3	81.9	115.1	181.7
M6V190(F)	16.6	30.8	36.2	39.7	44.1	56.8	81.4	105.0	145.4	180.6	245.0	388.3

1.90 Final VPC

Model						Ti	me					
Number	24 hr	12 hr	10 hr	9 hr	8 hr	6 hr	4 hr	3 hr	2 hr	1.5 hr	1 hr	0.5 hr
M12V30T	2.2	4.3	5.1	5.7	6.3	8.0	11.2	14.3	20.1	25.6	36.0	61.2
M12V40(F)	2.7	5.2	6.2	6.9	7.6	10.0	14.4	16.7	26.8	34.5	48.7	84.2
M12V45F	3.7	6.9	8.1	9.0	10.0	12.7	17.8	22.6	31.6	40.1	56.1	89.3
M12V70(F)	6.0	11.2	13.2	14.5	16.1	20.8	28.6	36.1	50.2	63.4	88.1	144.6
M12V90(F)	6.8	13.0	15.4	17.0	19.0	24.4	34.2	43.5	60.9	77.4	108.4	169.9
M6V190(F)	16.1	29.5	34.6	37.9	42.0	54.1	77.1	100.0	140.0	172.4	231.3	358.1

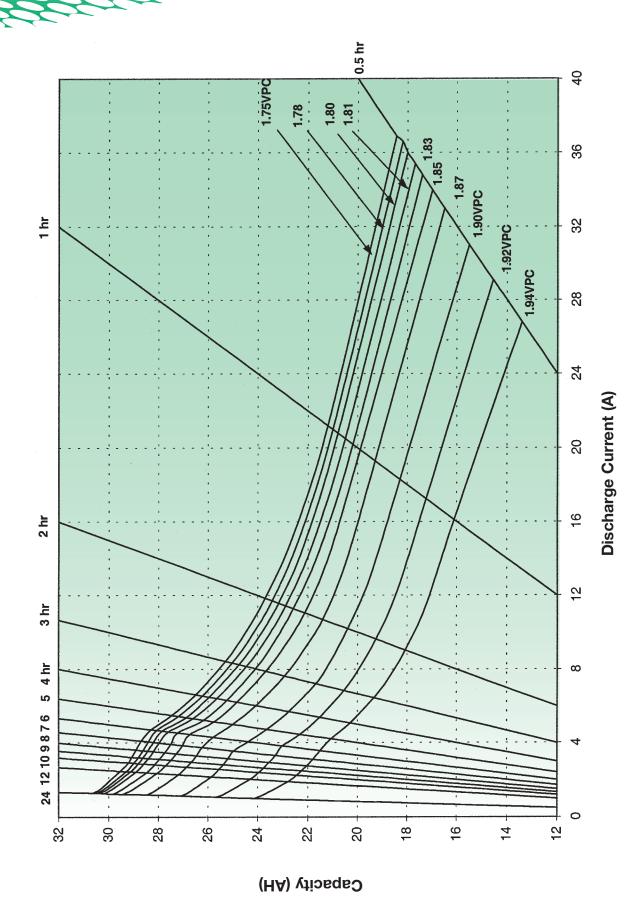
1.92 Final VPC

Model		Time										
Number	24 hr	12 hr	10 hr	9 hr	8 hr	6 hr	4 hr	3 hr	2 hr	1.5 hr	1 hr	0.5 hr
M12V30T	2.1	4.0	4.8	5.3	5.9	7.5	10.6	13.4	18.9	24.0	33.7	57.3
M12V40(F)	2.6	5.0	6.0	6.6	7.3	9.5	13.8	17.8	25.5	32.7	45.9	79.3
M12V45F	3.5	6.5	7.7	8.5	9.4	12.1	16.9	21.4	29.9	37.9	53.0	84.4
M12V70(F)	5.7	10.6	12.5	13.7	15.2	19.7	27.1	34.2	47.4	59.7	82.7	134.7
M12V90(F)	6.4	12.3	14.5	16.1	17.9	23.3	32.4	41.1	57.3	72.5	101.1	155.4
M6V190(F)	15.4	28.2	33.0	36.2	40.1	51.5	73.4	95.0	132.0	162.4	217.4	296.7

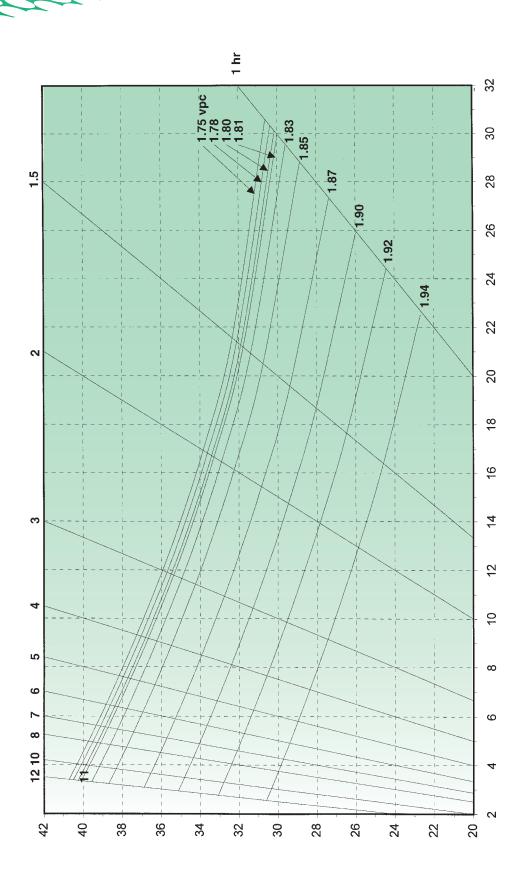
1.94 Final VPC

Model		Time										
Number	24 hr	12 hr	10 hr	9 hr	8 hr	6 hr	4 hr	3 hr	2 hr	1.5 hr	1 hr	0.5 hr
M12V30T	1.9	3.8	4.5	5.0	5.6	7.1	9.9	12.6	17.6	22.4	31.3	53.0
M12V40(F)	2.5	4.8	5.6	6.2	6.9	9.0	12.9	16.7	23.9	30.6	42.8	73.7
M12V45F	3.3	6.2	7.3	8.0	8.9	11.6	16.1	20.3	28.3	35.8	49.9	79.6
M12V70(F)	5.4	10.0	11.8	12.9	14.4	18.6	25.7	32.3	44.6	56.1	77.3	125.5
M12V90(F)	6.1	11.6	13.7	15.1	16.8	21.8	30.8	38.8	53.7	67.7	93.8	144.3
M6V190(F)	14.6	26.8	31.4	34.5	38.2	49.2	70.3	90.5	125.2	153.4	204.1	262.8



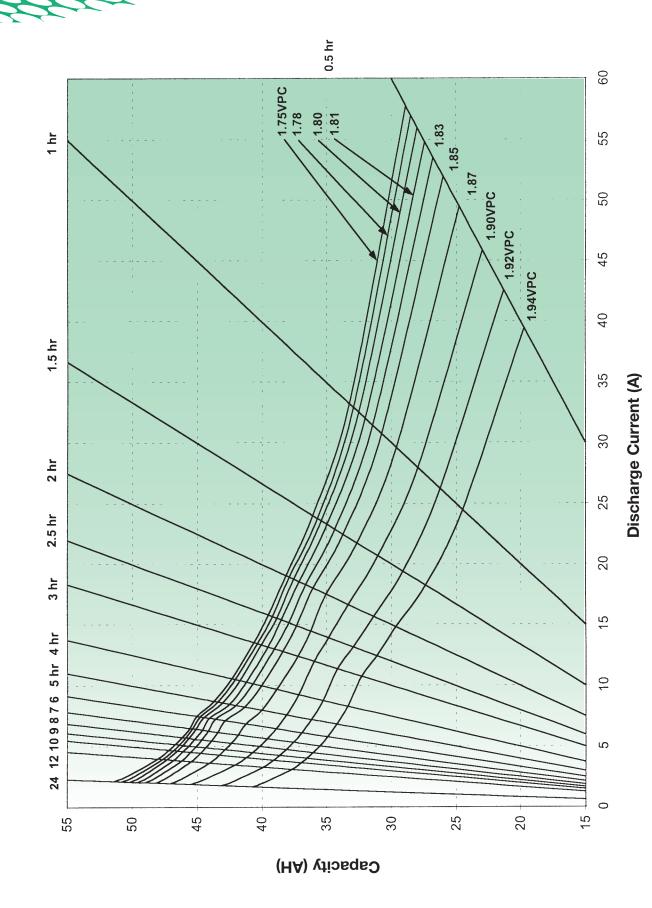


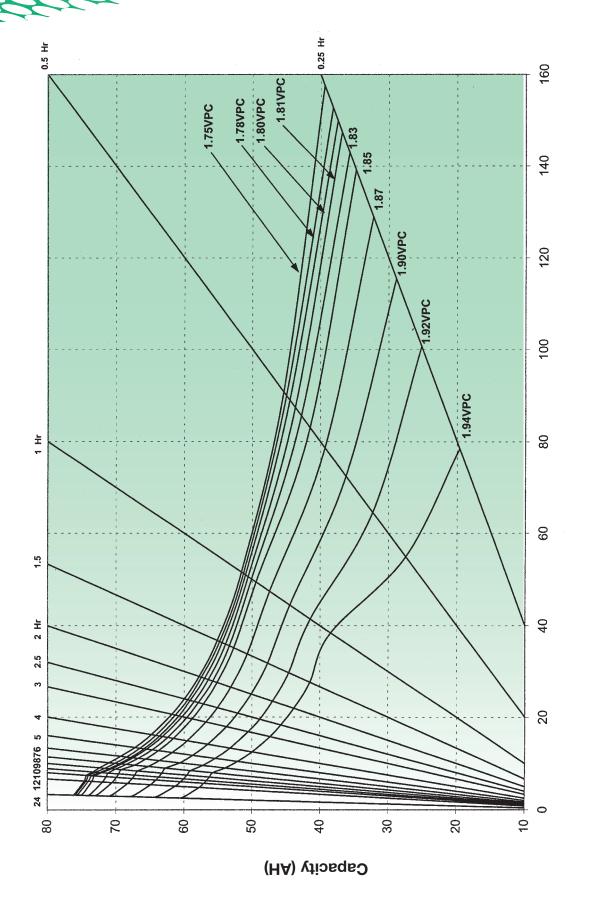




Capacity (AH)

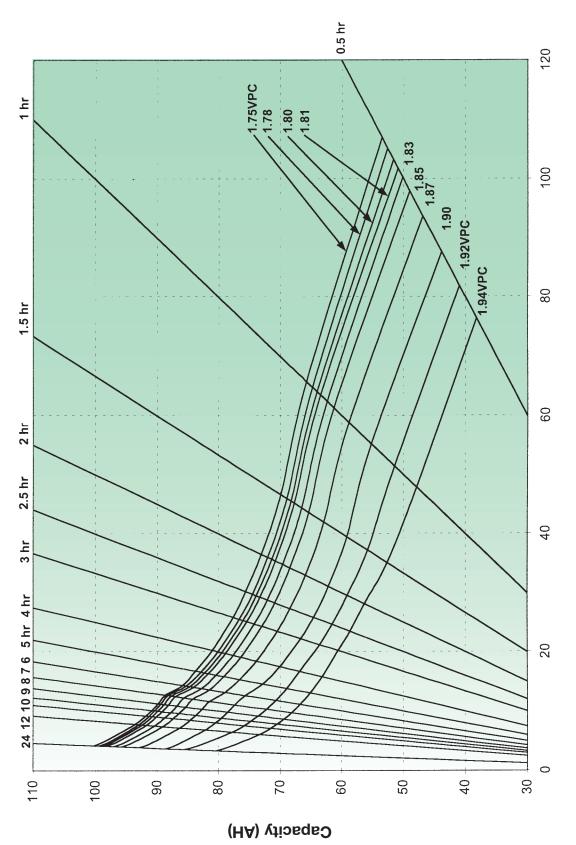
M12V45F - Performance Curves Amperes @ 25°C (77°F)



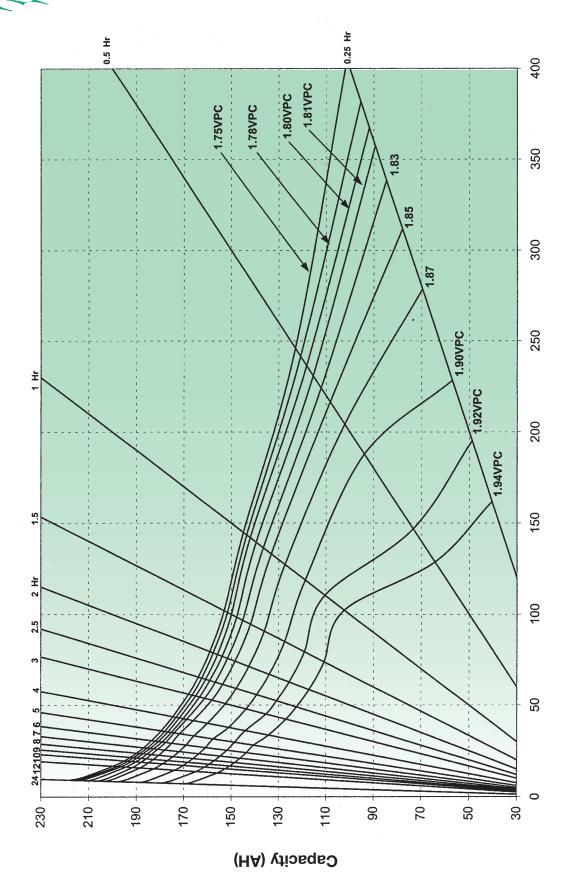


Discharge Current (A)





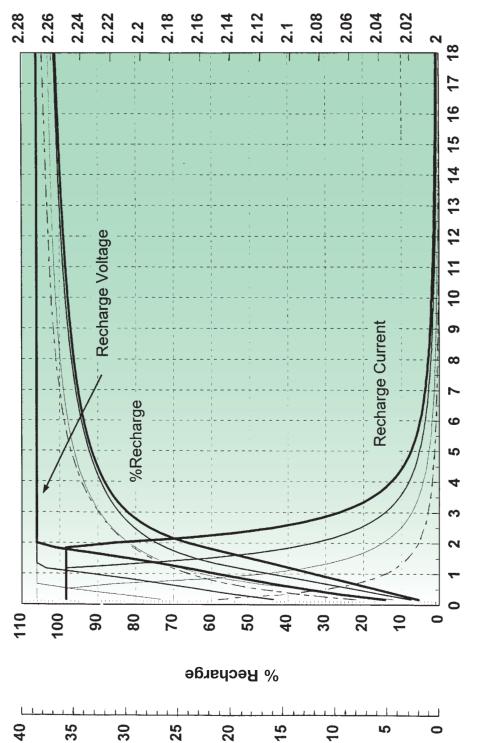
Discharge Current (A)



Discharge Current (A)

Voltage, VPC

Recharge Characterization 2.27 VPC Float @ 25°C (77°F)



Charge Current, Amps per 100AH

Time, Hours

50%DOD

20% DOD

80%DOD

100%DOD



GLOBAL OPERATIONS

NORTH AMERICA

GNB Industrial Power Chicago, Illinois U.S.A. TEL: 1.630.629.5200 FAX: 1.630.629.2635

GNB Industrial Power Maple, Ontario Canada TEL: 1.905.669.9326 FAX: 1.905.669.7688

EUROPE

Exide Technologies Büdingen, Germany TEL: 49.6042.8170 FAX: 49.6042.81233

MIDDLE EAST/AFRICA

Exide Technologies Abu Dhabi, U.A.E. TEL: 971.2.226235 FAX: 971.2.227644

JAPAN

GNB Industrial Power Japan Tokyo, Japan/Pacific Rim TEL: 81.3.5325.6281 FAX: 81.3.5325.2063

AUSTRALIA/NEW ZEALAND

Exide Technologies Padstow, N.S.W. Australia TEL: 61.2.9722.5700 FAX: 61.2.9774.2966

SOUTH EAST ASIA

Exide Technologies S.E. Asia Singapore

TEL: 65.546.2866 FAX: 65.546.2966

CHINA

Exide Technologies Hong Kong, China

TEL: 852.3106.2668 FAX: 852.3106.0260

Exide Technologies Beijing, China

TEL: 86.10.6510.2910 FAX: 86.10.6510.2912

LATIN AMERICA

GNB Industrial Power Chicago, Illinois U.S.A. TEL: 1.630.629.5200 FAX: 1.630.629.2635

INDIA

GNB Industrial Power Bangalore, India TEL: 91.80.550.0581

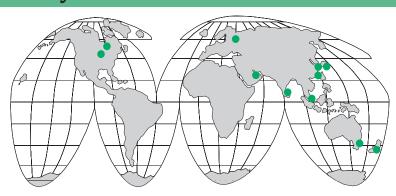
FAX: 91.80.550.0581 91.80.550.0582

www.gnb.com

SECTION 22.60 RPT 8/02

Printed on recycled paper.

Industry Leader in Network Power...



The Network Power Division of Exide Technologies is *the* global leader in stored electrical energy solutions for all major critical reserve power applications and needs. Such network power applications include communication/data networks, UPS systems for computers and control systems, and electrical power generation and distribution systems. With a strong manufacturing base in both North America and Europe and a truly global reach (operations in greater than 80 countries) in sales and service, the Network Power Division has all of the tools necessary to satisfy your power needs.

Global Brands...











Based on over 100 years of technological innovation, the Network Power Division continues to lead the industry with such recognized global brands as Absolyte, Sonnenschein, Marathon, Sprinter, and Flooded Classic. These products and brands are synonymous with quality, reliability, performance and excellence in all markets served.

Total Battery Management...



In addition to being the leader in delivering premium products to the market, Exide Technologies takes pride in its commitment to the environment. As part of a complete approach to manufacturing, distributing, and recycling lead acid batteries, the Total Battery Management program has been developed to ensure a safe and responsible life cycle for all of our products.



INDUSTRIAL POWER

A Division of **EXIDE** Technologies