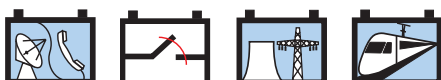


Industrial Batteries / Network Power

**Marathon M FT**



»AGM modular power«



# Industrial Batteries

## The powerful range of Network Power

Energy storage solutions for critical systems that require uninterrupted power supply. GNB® Industrial Power offers powerful batteries for your individual needs. The below table is only indicative and depends on customers' specific applications. For more information please ask a GNB sales representative.

Applications	Battery ranges																	
	Sonnenschein						Marathon		Sprinter		Absolyte	Powerfit	Classic					
	A400/A600	A400 FT	A500	A700	Solar	RAIL	M FT	M/L/XL	S	P/XP	GP/GX	S200/S300	GRoE	OCSM	OPzS	Energy Bloc/OGi	Solar	rail
Telecom	●	●	●	●			●	●	●	●	●			●	●	●		
UPS		●	●	●			●	●	●	●	●			●		●		
Emergency lighting	●		●					●		●		●			●	●		
Security	●		●	●						●		●		●	●			
Utility	●	●		●			●	●	●	●	●		●	●	●	●		
Railways	●	●	●	●		●	●	●	●	●	●			●		●		●
Photovoltaic					●						●							●
Universal	●	●	●	●			●	●	●	●	●	●		●	●	●		

### The GNB Network Power brand overview

**ABSOLYTE™** **MARATHON™** > VRLA batteries (Valve Regulated Lead Acid) in which the electrolyte is fixed in an absorbent glass mat (AGM)  
**Sprinter®** **Powerfit™** > Excellent high current capability  
 > Very economical  
 > Maintenance-free (no topping up)

**Sonnenschein®** > VRLA batteries (Valve Regulated Lead Acid) in which the electrolyte is fixed in a gel (dryfit technology)  
 > Inventor of Gel technology  
 > Highest reliability, even in non-optimal conditions  
 > Particularly suitable for cyclic applications  
 > Maintenance-free (no topping up)

**Classic™** > Conventional lead-acid batteries with liquid electrolyte  
 > Extreme reliability, proven over decades  
 > Low maintenance



Further information about service is available on page 14

## Marathon M FT

### The safe storage system with long design life

Designed for durability in telecommunications and electric utility applications, the Marathon M FT series provides high performance and reliability in medium and long duration discharge applications. The location of the terminals on the front (vs. the top) of the battery greatly facilitates the installation and maintenance of the product when placed in a cabinet enclosure or on a standard relay rack tray.

#### Your benefits:

- > **Front terminal design** – easy access for faster installation and maintenance
- > **Durable polypropylene casing (available as flame retardant)** – maintains structural integrity in higher operating temperatures
- > **Short recharging time** – high availability
- > **Optimal energy density** – saves floor space
- > **Completely recyclable** – low CO<sub>2</sub> footprint



#### Specifications:

- > Maintenance-free (no topping up) during the whole service life
- > High-Compression Absorbent Glass Mat (AGM) technology
- > Nominal capacity 35.0 – 200 Ah
- > Design life: »12 years and longer – Long Life« according to EUROBAT Classification
- > Central degassing
- > Available as standard or flame retardant version (UL 94-V0)
- > Grid plates with superior lead calcium alloy for excellent corrosion resistance
- > Very low gassing due to internal gas recombination (99 % efficiency)
- > Low self discharge rate, enabling extended storage capability
- > Designed in accordance with IEC 60896-21/-22
- > Approval: Underwriter Laboratories (UL)
- > Trouble-free transportation of operational blocks and cells, no restriction for most rail, road, sea and air transportation (IATA, DGR clause A67)
- > Manufactured in Europe and USA in our ISO 9001 certified production plants



Design life  
12 years and  
longer –  
Long Life



Nominal  
capacity  
35.0 – 200 Ah



Block battery



Grid plate



Recyclable



Valve regulated  
lead-acid  
batteries



Maintenance  
free (no  
topping up)

## Marathon M FT

### Technical Data

#### Technical characteristics and data

Type	Part number	Nom. voltage V	Nominal capacity C <sub>10</sub> 1.80 Vpc 20°C Ah	Nominal capacity C <sub>8</sub> 1.75 Vpc 25°C Ah	Capacity C <sub>3</sub> 1.70 Vpc 20°C Ah	Capacity C <sub>1</sub> 1.60 Vpc 20°C Ah	Length (l) mm	Width (b/w) mm	Height (h1) max. mm	Weight approx. kg	Internal resistance mOhm	Short circuit current A	Terminal
M6V200FT	NAMT060200HM0FA	6	200	200	167	140	361	132	250	34.0	1.7	3461	F-M6
M12V35FT	NAMF120035HM0MA	12	35.0	35.0	30.8	27.2	280	107	189	14.0	11.0	1149	M-M6-90°
M12V50FT	NAMF120050HM0MA	12	47.0	48.0	41.1	35.2	280	107	231	18.0	8.2	1547	M-M6-90°
M12V60FT	NAMF120060HM0MA	12	59.0	59.0	50.2	41.3	280	107	263	23.0	7.0	1794	M-M6-90°
M12V90FT	NAMF120090HM0FA	12	86.0	86.0	75.2	65.3	395	105	270	31.0	5.1	2440	F-M6-90°
M12V105FT	NAMF120105HM0FA	12	100	104	86.6	71.3	511	110	238	35.8	4.9	2554	F-M6-90°
M12V125FT	NAMF120125HM0FA	12	121	125	112	89.4	559	124	283	47.6	4.7	2640	F-M6-90°
M12V155FT	NAMF120155HM0FA	12	150	155	131	104	559	124	283	53.8	3.8	3292	F-M6-90°
M12V180FT	NAMF120180VM0FA	12	175	180	-	-	559	125	318	60.3	3.0	4147	F-M6-90°

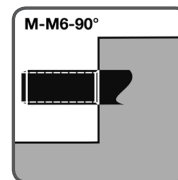
Installed length of type M6V200FT: 376 mm

#### Container, terminal and torque

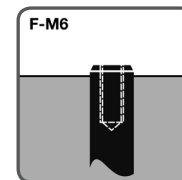
- > **Container:** - UL 94-HB = Polypropylene (PP)
- UL 94-V0 = Polypropylene (PP)

Figures are also valid for UL 94-V0 version.  
Change »H« to »V« in the part number. E.g.:

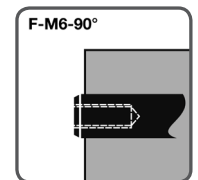
- > **Standard:** NAMF120035 **H** M0MA
- > **UL 94-V0:** NAMF120035 **V** M0MA



6 Nm



11 Nm

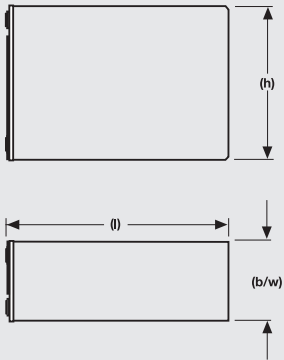


11 Nm

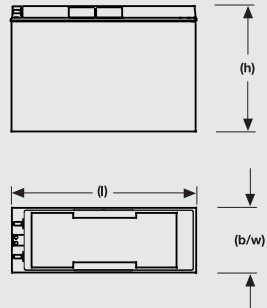
# Marathon M FT

## Drawings Marathon M FT

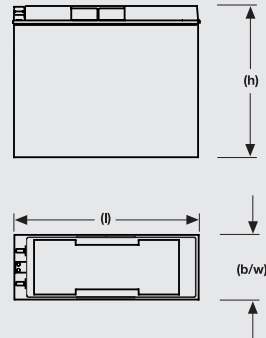
M6V200FT



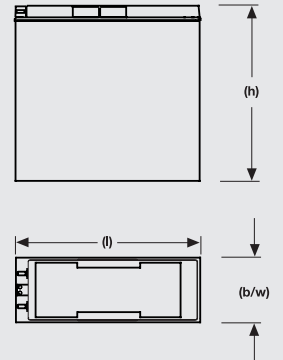
M12V35FT



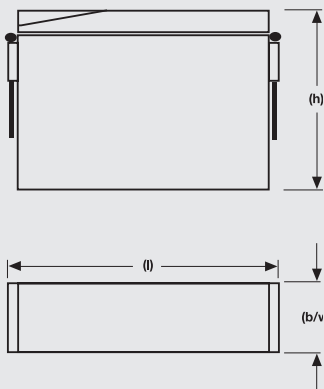
M12V50FT



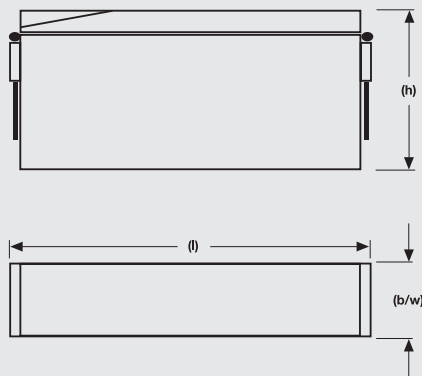
M12V60FT



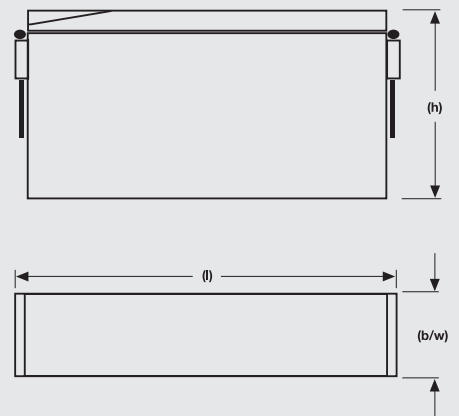
M12V90FT



M12V105FT



M12V125FT -  
M12V180FT



Not to scale!

## Marathon M FT

### Constant current discharge

#### 1.94 Vpc – Discharge in A at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h	24 h
M6V200FT	NAMT060200HM0FA	131	131	90.7	67.7	54.9	40.3	32.4	27.3	23.8	18.8	15.4	8.30	7.05
M12V35FT	NAMF120035HM0MA <sup>1</sup>	45.6	32.1	19.9	14.0	10.9	7.72	6.02	4.96	4.23	3.30	2.72	1.50	1.27
M12V50FT	NAMF120050HM0MA <sup>1</sup>	67.3	43.6	26.1	18.7	14.8	10.5	8.21	6.72	5.71	4.41	3.61	1.90	1.64
M12V60FT	NAMF120060HM0MA <sup>1</sup>	72.9	49.7	30.5	22.1	17.5	12.7	10.1	8.45	7.29	5.63	4.61	2.50	2.10
M12V90FT	NAMF120090HM0FA <sup>1</sup>	106	76.0	47.0	33.9	26.8	19.5	15.4	12.7	10.8	8.37	6.86	3.70	3.15
M12V105FT	NAMF120105HM0FA <sup>1</sup>	121	79.9	52.4	38.3	30.6	22.3	17.9	14.9	12.6	9.74	7.96	4.20	3.60
M12V125FT	NAMF120125HM0FA <sup>1</sup>	97.4	77.8	62.1	45.6	36.6	27.0	21.2	17.3	14.7	11.4	9.47	5.00	4.22
M12V155FT	NAMF120155HM0FA <sup>1</sup>	122	95.1	74.0	56.2	46.3	33.5	26.3	21.8	18.7	14.4	11.7	6.30	5.28

#### 1.92 Vpc – Discharge in A at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h	24 h
M6V200FT	NAMT060200HM0FA	159	155	97.7	72.7	59.0	43.0	34.4	29.0	25.1	20.0	16.3	8.80	7.47
M12V35FT	NAMF120035HM0MA <sup>1</sup>	50.2	34.4	21.3	15.0	11.7	8.25	6.42	5.28	4.51	3.50	2.88	1.60	1.34
M12V50FT	NAMF120050HM0MA <sup>1</sup>	73.0	46.8	28.0	20.1	15.9	11.2	8.67	7.10	6.03	4.66	3.82	2.10	1.75
M12V60FT	NAMF120060HM0MA <sup>1</sup>	79.2	53.7	33.1	23.8	18.9	13.6	10.7	9.11	7.73	5.98	4.89	2.60	2.23
M12V90FT	NAMF120090HM0FA <sup>1</sup>	120	81.1	50.5	36.2	28.5	20.4	16.1	13.4	11.4	8.86	7.26	3.90	3.33
M12V105FT	NAMF120105HM0FA <sup>1</sup>	132	86.0	55.8	40.6	32.3	23.5	18.7	15.8	13.4	10.3	8.42	4.50	3.79
M12V125FT	NAMF120125HM0FA <sup>1</sup>	125	91.7	67.3	49.4	39.7	29.1	22.7	18.6	15.7	12.1	10.1	5.40	4.48
M12V155FT	NAMF120155HM0FA <sup>1</sup>	149	108	78.8	59.7	49.0	35.1	27.6	23.0	19.8	15.3	12.5	6.60	5.60

#### 1.90 Vpc – Discharge in A at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h	24 h
M6V200FT	NAMT060200HM0FA	187	166	105	77.9	63.0	45.8	36.5	30.6	26.5	21.1	17.2	9.30	7.92
M12V35FT	NAMF120035HM0MA <sup>1</sup>	56.4	36.8	22.8	16.0	12.5	8.78	6.82	5.61	4.78	3.71	3.05	1.70	1.42
M12V50FT	NAMF120050HM0MA <sup>1</sup>	79.2	50.1	29.6	21.3	16.9	11.9	9.19	7.52	6.38	4.92	4.02	2.20	1.83
M12V60FT	NAMF120060HM0MA <sup>1</sup>	86.5	58.0	35.6	25.6	20.2	14.5	11.4	9.55	8.23	6.35	5.19	2.80	2.36
M12V90FT	NAMF120090HM0FA <sup>1</sup>	130	86.7	53.9	38.5	30.3	21.6	17.2	14.1	12.0	9.33	7.66	4.10	3.52
M12V105FT	NAMF120105HM0FA <sup>1</sup>	141	91.6	59.4	42.9	34.1	24.6	19.6	16.4	14.1	10.9	8.90	4.70	3.97
M12V125FT	NAMF120125HM0FA <sup>1</sup>	152	105	72.6	52.9	42.3	31.1	24.0	19.6	16.7	12.9	10.5	5.70	4.84
M12V155FT	NAMF120155HM0FA <sup>1</sup>	177	122	83.9	63.4	51.9	37.0	29.1	24.1	20.7	16.3	13.3	7.00	5.91

#### 1.87 Vpc – Discharge in A at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h	24 h
M6V200FT	NAMT060200HM0FA	231	182	115	84.0	66.9	48.6	38.7	32.4	28.1	22.4	18.3	9.80	8.29
M12V35FT	NAMF120035HM0MA <sup>1</sup>	61.2	39.2	24.3	17.0	13.2	9.29	7.21	5.92	5.04	3.91	3.21	1.70	1.48
M12V50FT	NAMF120050HM0MA <sup>1</sup>	85.6	53.8	31.1	22.3	17.6	12.5	9.69	7.93	6.73	5.20	4.26	2.30	1.94
M12V60FT	NAMF120060HM0MA <sup>1</sup>	93.3	60.9	37.4	26.8	21.2	15.2	12.0	10.0	8.69	6.69	5.46	2.90	2.47
M12V90FT	NAMF120090HM0FA <sup>1</sup>	142	93.2	57.4	40.8	32.0	23.1	18.0	14.7	12.5	9.77	8.03	4.40	3.71
M12V105FT	NAMF120105HM0FA <sup>1</sup>	153	97.9	62.6	45.1	35.7	25.8	20.4	17.0	14.7	11.4	9.34	4.90	4.17
M12V125FT	NAMF120125HM0FA <sup>1</sup>	169	115	78.0	56.5	44.9	33.0	25.4	20.8	17.6	13.6	11.1	6.10	5.08
M12V155FT	NAMF120155HM0FA <sup>1</sup>	196	136	89.5	67.2	54.8	39.0	30.6	25.3	21.7	17.1	13.9	7.30	6.18

<sup>1</sup> Discharge data are also valid for other terminals/containers.

## Marathon M FT

### Constant current discharge

#### 1.85 Vpc – Discharge in A at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h	24 h
M6V200FT	NAMT060200HM0FA	259	191	122	88.3	70.1	50.6	40.1	33.5	28.9	23.0	18.9	10.1	8.54
M12V35FT	NAMF120035HM0MA <sup>1</sup>	64.8	40.9	25.3	17.7	13.8	9.64	7.47	6.13	5.22	4.04	3.32	1.80	1.53
M12V50FT	NAMF120050HM0MA <sup>1</sup>	90.2	56.3	32.2	23.1	18.2	12.9	10.0	8.20	6.97	5.38	4.41	2.40	2.01
M12V60FT	NAMF120060HM0MA <sup>1</sup>	98.4	62.9	38.5	27.7	21.8	15.7	12.4	10.3	8.99	6.92	5.65	3.00	2.54
M12V90FT	NAMF120090HM0FA <sup>1</sup>	152	97.8	59.5	42.3	33.2	23.5	18.3	15.1	12.9	10.0	8.28	4.50	3.87
M12V105FT	NAMF120105HM0FA <sup>1</sup>	154	101	64.7	46.5	36.9	26.5	21.0	17.5	15.1	11.7	9.59	5.20	4.32
M12V125FT	NAMF120125HM0FA <sup>1</sup>	175	119	79.1	57.9	46.4	34.3	26.4	21.6	18.3	14.1	11.5	6.30	5.24
M12V155FT	NAMF120155HM0FA <sup>1</sup>	220	150	92.8	69.6	56.8	40.3	31.6	26.1	22.4	17.6	14.3	7.60	6.35

#### 1.83 Vpc – Discharge in A at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h	24 h
M6V200FT	NAMT060200HM0FA	276	199	126	90.8	71.9	51.7	41.0	34.2	29.5	23.3	19.2	10.2	8.66
M12V35FT	NAMF120035HM0MA <sup>1</sup>	66.9	41.8	25.7	18.0	14.0	9.80	7.59	6.23	5.30	4.11	3.37	1.80	1.55
M12V50FT	NAMF120050HM0MA <sup>1</sup>	93.0	57.9	32.6	23.3	18.4	13.1	10.2	8.38	7.11	5.48	4.48	2.40	2.03
M12V60FT	NAMF120060HM0MA <sup>1</sup>	101	65.0	39.2	28.2	22.2	15.9	12.6	10.5	9.15	7.03	5.74	3.00	2.57
M12V90FT	NAMF120090HM0FA <sup>1</sup>	159	100	61.0	43.3	34.0	23.9	18.6	15.3	13.1	10.2	8.40	4.60	3.92
M12V105FT	NAMF120105HM0FA <sup>1</sup>	163	104	66.3	47.6	37.7	27.1	21.4	17.9	15.4	12.0	9.79	5.20	4.40
M12V125FT	NAMF120125HM0FA <sup>1</sup>	186	124	81.7	59.6	47.7	35.2	27.1	22.1	18.7	14.4	11.8	6.30	5.34
M12V155FT	NAMF120155HM0FA <sup>1</sup>	233	157	95.8	71.5	58.1	41.2	32.3	26.7	22.9	17.9	14.5	7.70	6.50

#### 1.80 Vpc – Discharge in A at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h	24 h
M6V200FT	NAMT060200HM0FA	297	210	132	95.1	75.1	53.8	42.5	35.3	30.4	24.0	19.9	10.5	8.90
M12V35FT	NAMF120035HM0MA <sup>1</sup>	70.2	43.2	26.3	18.3	14.2	10.0	7.78	6.38	5.43	4.21	3.46	1.90	1.58
M12V50FT	NAMF120050HM0MA <sup>1</sup>	97.3	60.1	33.5	23.8	18.7	13.2	10.4	8.64	7.36	5.66	4.68	2.40	2.05
M12V60FT	NAMF120060HM0MA <sup>1</sup>	106	67.3	39.6	28.5	22.5	16.3	12.9	10.8	9.39	7.21	5.87	3.10	2.62
M12V90FT	NAMF120090HM0FA <sup>1</sup>	170	105	63.0	44.7	35.0	24.5	19.1	15.7	13.4	10.4	8.58	4.70	3.99
M12V105FT	NAMF120105HM0FA <sup>1</sup>	179	109	68.3	49.0	38.7	27.8	21.9	18.3	15.7	12.2	10.0	5.30	4.48
M12V125FT	NAMF120125HM0FA <sup>1</sup>	204	132	85.1	61.8	49.2	36.3	27.9	22.8	19.3	14.8	12.1	6.40	5.46
M12V155FT	NAMF120155HM0FA <sup>1</sup>	254	167	99.8	73.8	59.6	42.2	33.1	27.4	23.4	18.4	14.9	7.90	6.64

#### 1.78 Vpc – Discharge in A at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h	24 h
M6V200FT	NAMT060200HM0FA	309	216	134	96.5	76.3	54.6	43.0	35.7	30.7	24.2	20.0	10.6	8.95
M12V35FT	NAMF120035HM0MA <sup>1</sup>	71.4	43.6	26.4	18.4	14.3	10.0	7.82	6.42	5.47	4.24	3.48	1.90	1.61
M12V50FT	NAMF120050HM0MA <sup>1</sup>	98.2	60.6	33.8	24.0	18.8	13.3	10.5	8.70	7.40	5.70	4.68	2.40	2.06
M12V60FT	NAMF120060HM0MA <sup>1</sup>	107	67.9	39.6	28.6	22.7	16.4	13.0	10.8	9.47	7.26	5.91	3.10	2.64
M12V90FT	NAMF120090HM0FA <sup>1</sup>	174	106	63.6	45.0	35.2	24.7	19.2	15.8	13.4	10.4	8.62	4.70	4.01
M12V105FT	NAMF120105HM0FA <sup>1</sup>	184	112	69.3	49.7	39.2	28.1	22.2	18.5	15.9	12.4	10.1	5.30	4.53
M12V125FT	NAMF120125HM0FA <sup>1</sup>	214	136	86.6	62.7	49.8	36.7	28.2	23.0	19.5	15.0	12.2	6.50	5.53
M12V155FT	NAMF120155HM0FA <sup>1</sup>	265	172	101	74.9	60.3	42.8	33.5	27.7	23.8	18.6	15.1	7.90	6.72

<sup>1</sup> Discharge data are also valid for other terminals/containers.

## Marathon M FT

### Constant current discharge

#### 1.75 Vpc – Discharge in A at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h	24 h
M6V200FT	NAMT060200HM0FA	323	220	135	97.2	76.9	55.1	43.5	36.2	31.2	24.5	20.2	10.7	9.04
M12V35FT	NAMF120035HM0MA <sup>1</sup>	72.6	44.0	26.4	18.5	14.3	10.1	7.91	6.55	5.61	4.32	3.53	1.90	1.59
M12V50FT	NAMF120050HM0MA <sup>1</sup>	99.3	61.0	34.2	24.3	19.0	13.5	10.6	8.82	7.50	5.77	4.69	2.50	2.08
M12V60FT	NAMF120060HM0MA <sup>1</sup>	109	68.7	40.1	28.9	22.9	16.5	13.1	10.9	9.48	7.34	5.97	3.20	2.66
M12V90FT	NAMF120090HM0FA <sup>1</sup>	178	108	64.0	45.4	35.5	24.9	19.3	15.9	13.5	10.5	8.68	4.70	4.03
M12V105FT	NAMF120105HM0FA <sup>1</sup>	190	115	70.0	50.2	39.7	28.5	22.5	18.7	16.1	12.6	10.2	5.40	4.55
M12V125FT	NAMF120125HM0FA <sup>1</sup>	233	141	88.1	63.6	50.4	37.1	28.6	23.3	19.7	15.2	12.4	6.50	5.60
M12V155FT	NAMF120155HM0FA <sup>1</sup>	274	174	103	75.7	60.8	43.2	33.8	28.0	24.0	18.9	15.3	8.00	6.79

#### 1.73 Vpc – Discharge in A at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h	24 h
M6V200FT	NAMT060200HM0FA	333	223	136	97.9	77.4	55.4	43.8	36.5	31.4	24.7	20.2	10.7	9.06
M12V35FT	NAMF120035HM0MA <sup>1</sup>	73.1	44.4	26.5	18.5	14.3	10.2	8.01	6.65	5.63	4.34	3.54	1.90	1.60
M12V50FT	NAMF120050HM0MA <sup>1</sup>	100	61.3	34.3	24.4	19.1	13.6	10.6	8.90	7.55	5.79	4.71	2.50	2.08
M12V60FT	NAMF120060HM0MA <sup>1</sup>	110	69.0	40.2	29.0	23.0	16.6	13.1	11.0	9.51	7.37	6.00	3.20	2.66
M12V90FT	NAMF120090HM0FA <sup>1</sup>	184	109	64.4	45.5	35.6	24.9	19.4	15.9	13.6	10.5	8.70	4.70	4.04
M12V105FT	NAMF120105HM0FA <sup>1</sup>	192	116	70.5	50.6	40.0	28.6	22.6	18.8	16.1	12.7	10.3	5.40	4.56
M12V125FT	NAMF120125HM0FA <sup>1</sup>	236	143	88.7	64.0	50.8	37.3	28.7	23.5	19.9	15.3	12.5	6.70	5.63
M12V155FT	NAMF120155HM0FA <sup>1</sup>	287	177	104	76.2	61.2	43.5	34.1	28.2	24.1	18.9	15.4	8.00	6.81

#### 1.70 Vpc – Discharge in A at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h	24 h
M6V200FT	NAMT060200HM0FA	343	226	137	98.4	77.8	55.7	44.0	36.7	31.6	24.8	20.3	10.8	9.09
M12V35FT	NAMF120035HM0MA <sup>1</sup>	74.0	44.6	26.7	18.6	14.4	10.2	8.05	6.68	5.66	4.36	3.56	1.90	1.61
M12V50FT	NAMF120050HM0MA <sup>1</sup>	101	61.5	34.5	24.5	19.2	13.6	10.7	8.94	7.60	5.84	4.74	2.50	2.09
M12V60FT	NAMF120060HM0MA <sup>1</sup>	110	69.5	40.4	29.2	23.1	16.7	13.2	11.0	9.57	7.42	6.03	3.20	2.67
M12V90FT	NAMF120090HM0FA <sup>1</sup>	187	110	64.7	45.7	35.7	25.0	19.4	16.0	13.6	10.6	8.74	4.80	4.06
M12V105FT	NAMF120105HM0FA <sup>1</sup>	195	118	71.2	51.1	40.4	28.8	22.7	18.9	16.2	12.7	10.3	5.40	4.58
M12V125FT	NAMF120125HM0FA <sup>1</sup>	241	147	89.6	64.6	51.2	37.5	28.9	23.7	20.0	15.4	12.6	6.70	5.67
M12V155FT	NAMF120155HM0FA <sup>1</sup>	300	179	105	76.9	61.7	43.8	34.3	28.4	24.3	19.0	15.4	8.00	6.83

#### 1.67 Vpc – Discharge in A at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h	24 h
M6V200FT	NAMT060200HM0FA	351	229	138	99.0	78.2	56.0	44.2	36.8	31.7	25.0	20.5	10.8	9.12
M12V35FT	NAMF120035HM0MA <sup>1</sup>	74.9	44.8	26.8	18.7	14.5	10.3	8.08	6.72	5.70	4.39	3.58	1.90	1.61
M12V50FT	NAMF120050HM0MA <sup>1</sup>	102	61.7	34.7	24.6	19.3	13.7	10.8	9.00	7.68	5.89	4.77	2.50	2.10
M12V60FT	NAMF120060HM0MA <sup>1</sup>	111	69.9	40.7	29.3	23.2	16.8	13.3	11.1	9.62	7.46	6.06	3.20	2.68
M12V90FT	NAMF120090HM0FA <sup>1</sup>	191	111	64.9	45.9	35.9	25.1	19.5	16.1	13.7	10.6	8.77	4.80	4.07
M12V105FT	NAMF120105HM0FA <sup>1</sup>	199	119	72.0	51.6	40.7	29.0	22.8	19.0	16.3	12.8	10.4	5.40	4.59
M12V125FT	NAMF120125HM0FA <sup>1</sup>	248	150	90.6	65.2	51.7	37.6	29.1	23.9	20.2	15.5	12.7	6.80	5.72
M12V155FT	NAMF120155HM0FA <sup>1</sup>	307	180	106	77.6	62.2	44.2	34.5	28.5	24.4	19.1	15.5	8.00	6.86

<sup>1</sup> Discharge data are also valid for other terminals/containers.



## Marathon M FT

### Constant current discharge

#### 1.65 Vpc – Discharge in A at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h	20 h	24 h
M6V200FT	NAMT060200HM0FA	357	231	139	99.7	78.6	56.3	44.4	36.9	31.8	25.0	20.5	10.8	9.14
M12V35FT	NAMF120035HM0MA <sup>1</sup>	75.5	45.0	26.9	18.7	14.5	10.3	8.11	6.75	5.72	4.40	3.59	1.90	1.62
M12V50FT	NAMF120050HM0MA <sup>1</sup>	103	62.0	34.9	24.7	19.3	13.8	10.9	9.08	7.73	5.92	4.80	2.50	2.11
M12V60FT	NAMF120060HM0MA <sup>1</sup>	111	70.4	40.8	29.4	23.3	16.8	13.3	11.1	9.65	7.49	6.09	3.20	2.69
M12V90FT	NAMF120090HM0FA <sup>1</sup>	193	112	65.1	46.0	36.0	25.2	19.6	16.1	13.7	10.6	8.79	4.80	4.08
M12V105FT	NAMF120105HM0FA <sup>1</sup>	200	120	72.6	52.0	41.0	29.2	22.9	19.0	16.3	12.9	10.4	5.40	4.60
M12V125FT	NAMF120125HM0FA <sup>1</sup>	250	152	91.2	65.7	52.0	37.7	29.3	24.0	20.3	15.6	12.7	6.80	5.75
M12V155FT	NAMF120155HM0FA <sup>1</sup>	312	182	106	78.0	62.5	44.4	34.7	28.6	24.5	19.2	15.6	8.20	6.88

<sup>1</sup> Discharge data are also valid for other terminals/containers.

## Marathon M FT

### Constant power discharge

#### 1.94 Vpc – Discharge in W/block at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	8 h	10 h	24 h
M6V200FT	NAMT060200HM0FA	866	804	551	416	341	246	196	164	112	91.9	41.3
M12V35FT	NAMF120035HM0MA <sup>1</sup>	564	377	231	165	130	92.5	72.3	59.8	40.0	33.0	15.6
M12V50FT	NAMF120050HM0MA <sup>1</sup>	731	492	311	232	184	129	100	82.5	54.6	44.9	20.8
M12V60FT	NAMF120060HM0MA <sup>1</sup>	882	597	365	265	211	153	121	102	67.5	55.0	24.6
M12V90FT	NAMF120090HM0FA <sup>1</sup>	1184	889	562	407	324	235	187	156	103	84.5	37.9
M12V105FT	NAMF120105HM0FA <sup>1</sup>	1250	968	612	443	352	255	203	170	112	91.8	41.9
M12V125FT	NAMF120125HM0FA <sup>1</sup>	1159	1159	729	533	427	312	250	210	146	118	51.8
M12V155FT	NAMF120155HM0FA <sup>1</sup>	1337	1309	862	649	530	385	306	257	174	142	64.6
M12V180FT	NAMF120180VM0FA	NA	1455	997	718	571	417	331	277	190	160	79.2

#### 1.92 Vpc – Discharge in W/block at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	8 h	10 h	24 h
M6V200FT	NAMT060200HM0FA	1011	857	585	443	363	262	207	173	118	96.9	43.8
M12V35FT	NAMF120035HM0MA <sup>1</sup>	601	399	247	176	139	98.3	76.8	63.4	42.4	35.0	16.5
M12V50FT	NAMF120050HM0MA <sup>1</sup>	798	525	331	245	196	137	106	87.4	57.7	47.4	21.9
M12V60FT	NAMF120060HM0MA <sup>1</sup>	1017	644	392	283	224	162	128	107	71.8	58.5	26.1
M12V90FT	NAMF120090HM0FA <sup>1</sup>	1429	944	596	430	341	247	196	164	109	88.9	39.8
M12V105FT	NAMF120105HM0FA <sup>1</sup>	1526	1025	651	470	373	269	213	180	118	97.0	44.2
M12V125FT	NAMF120125HM0FA <sup>1</sup>	1237	1237	778	567	453	330	264	222	155	125	54.8
M12V155FT	NAMF120155HM0FA <sup>1</sup>	1626	1407	916	684	556	403	321	269	184	150	67.9
M12V180FT	NAMF120180VM0FA	NA	1554	1053	772	611	444	352	294	200	167	82.1

#### 1.90 Vpc – Discharge in W/block at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	8 h	10 h	24 h
M6V200FT	NAMT060200HM0FA	1153	920	620	470	386	277	219	182	125	102	46.0
M12V35FT	NAMF120035HM0MA <sup>1</sup>	641	422	262	187	147	104	81.2	67.0	44.7	36.9	17.4
M12V50FT	NAMF120050HM0MA <sup>1</sup>	868	561	351	259	208	145	112	92.3	60.8	49.9	22.9
M12V60FT	NAMF120060HM0MA <sup>1</sup>	1114	694	420	301	238	171	135	112	76.1	61.9	27.6
M12V90FT	NAMF120090HM0FA <sup>1</sup>	1546	1002	630	454	359	259	205	171	114	93.4	41.6
M12V105FT	NAMF120105HM0FA <sup>1</sup>	1642	1085	690	497	393	283	224	187	125	102	46.4
M12V125FT	NAMF120125HM0FA <sup>1</sup>	1321	1321	828	601	479	348	278	233	164	133	57.8
M12V155FT	NAMF120155HM0FA <sup>1</sup>	1916	1517	975	718	579	419	335	282	195	159	71.2
M12V180FT	NAMF120180VM0FA	NA	1648	1102	819	647	468	370	308	210	175	85.0

#### 1.87 Vpc – Discharge in W/block at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	8 h	10 h	24 h
M6V200FT	NAMT060200HM0FA	1340	1006	664	502	411	294	232	193	130	107	48.4
M12V35FT	NAMF120035HM0MA <sup>1</sup>	679	444	277	198	155	109	85.5	70.5	46.9	38.7	18.1
M12V50FT	NAMF120050HM0MA <sup>1</sup>	939	596	371	270	214	152	118	96.7	63.5	52.0	23.7
M12V60FT	NAMF120060HM0MA <sup>1</sup>	1130	740	444	318	251	180	142	118	79.8	64.9	28.9
M12V90FT	NAMF120090HM0FA <sup>1</sup>	1665	1061	665	477	377	271	214	178	119	97.6	43.4
M12V105FT	NAMF120105HM0FA <sup>1</sup>	1771	1144	722	519	410	295	233	194	130	106	48.3
M12V125FT	NAMF120125HM0FA <sup>1</sup>	1400	1400	873	634	504	366	291	244	168	139	60.6
M12V155FT	NAMF120155HM0FA <sup>1</sup>	2350	1634	1042	758	605	440	351	295	203	165	74.1
M12V180FT	NAMF120180VM0FA	2550	1766	1165	875	689	496	391	324	220	182	88.0

<sup>1</sup> Discharge data are also valid for other terminals/containers.

## Marathon M FT

### Constant power discharge

#### 1.85 Vpc – Discharge in W/block at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	8 h	10 h	24 h
M6V200FT	NAMT060200HM0FA	1475	1067	692	522	427	305	240	199	134	111	49.8
M12V35FT	NAMF120035HM0MA <sup>1</sup>	710	460	288	205	161	113	88.3	72.8	48.4	39.9	18.6
M12V50FT	NAMF120050HM0MA <sup>1</sup>	988	620	387	276	217	155	122	101	66.0	53.6	23.8
M12V60FT	NAMF120060HM0MA <sup>1</sup>	1174	786	449	324	257	185	147	122	82.3	66.9	29.7
M12V90FT	NAMF120090HM0FA <sup>1</sup>	1727	1098	689	493	389	279	220	183	123	100	44.6
M12V105FT	NAMF120105HM0FA <sup>1</sup>	1782	1185	743	533	422	303	239	199	134	109	49.6
M12V125FT	NAMF120125HM0FA <sup>1</sup>	2114	1454	905	655	521	377	300	251	172	144	62.4
M12V155FT	NAMF120155HM0FA <sup>1</sup>	2466	1717	1083	786	626	454	362	303	209	170	75.9
M12V180FT	NAMF120180VM0FA	2659	1833	1197	894	710	510	401	333	224	186	89.1

#### 1.83 Vpc – Discharge in W/block at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	8 h	10 h	24 h
M6V200FT	NAMT060200HM0FA	1536	1110	712	535	437	311	244	203	138	112	50.6
M12V35FT	NAMF120035HM0MA <sup>1</sup>	730	468	292	208	163	115	89.6	73.8	49.1	40.4	18.9
M12V50FT	NAMF120050HM0MA <sup>1</sup>	1014	633	396	281	221	157	123	102	67.2	54.5	23.8
M12V60FT	NAMF120060HM0MA <sup>1</sup>	1217	804	458	330	261	188	149	124	83.6	67.9	30.1
M12V90FT	NAMF120090HM0FA <sup>1</sup>	1794	1125	700	501	395	282	222	185	124	101	45.2
M12V105FT	NAMF120105HM0FA <sup>1</sup>	1863	1216	760	545	431	309	244	203	137	112	50.3
M12V125FT	NAMF120125HM0FA <sup>1</sup>	2178	1489	924	669	532	385	306	256	176	148	63.4
M12V155FT	NAMF120155HM0FA <sup>1</sup>	2588	1776	1112	805	641	464	369	309	213	173	77.3
M12V180FT	NAMF120180VM0FA	2763	1890	1224	918	726	521	408	338	228	189	90.3

#### 1.80 Vpc – Discharge in W/block at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	8 h	10 h	24 h
M6V200FT	NAMT060200HM0FA	1649	1182	749	558	453	322	253	209	142	116	51.9
M12V35FT	NAMF120035HM0MA <sup>1</sup>	762	481	299	213	167	117	91.6	75.4	50.1	41.3	19.2
M12V50FT	NAMF120050HM0MA <sup>1</sup>	1055	653	407	289	227	161	126	104	68.8	55.5	23.9
M12V60FT	NAMF120060HM0MA <sup>1</sup>	1287	831	472	339	268	192	152	127	85.5	69.5	30.7
M12V90FT	NAMF120090HM0FA <sup>1</sup>	1900	1167	717	512	403	288	226	188	127	103	46.0
M12V105FT	NAMF120105HM0FA <sup>1</sup>	1983	1249	780	558	441	316	249	207	140	114	51.2
M12V125FT	NAMF120125HM0FA <sup>1</sup>	2255	1532	949	686	545	394	313	262	179	151	64.8
M12V155FT	NAMF120155HM0FA <sup>1</sup>	2772	1853	1148	829	658	475	377	316	217	177	78.8
M12V180FT	NAMF120180VM0FA	2905	1958	1255	938	744	532	417	344	231	191	90.9

#### 1.78 Vpc – Discharge in W/block at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	8 h	10 h	24 h
M6V200FT	NAMT060200HM0FA	1705	1212	760	565	457	325	255	211	143	117	52.2
M12V35FT	NAMF120035HM0MA <sup>1</sup>	773	485	301	214	168	118	92.2	76.0	50.5	41.6	19.4
M12V50FT	NAMF120050HM0MA <sup>1</sup>	1059	658	409	290	228	162	127	105	69.1	55.7	24.0
M12V60FT	NAMF120060HM0MA <sup>1</sup>	1315	840	476	341	270	193	153	127	86.0	69.9	30.9
M12V90FT	NAMF120090HM0FA <sup>1</sup>	1940	1183	721	514	404	290	228	189	128	104	46.3
M12V105FT	NAMF120105HM0FA <sup>1</sup>	2037	1272	789	565	446	319	252	210	142	115	51.7
M12V125FT	NAMF120125HM0FA <sup>1</sup>	2291	1552	960	694	551	398	316	264	181	153	65.6
M12V155FT	NAMF120155HM0FA <sup>1</sup>	2874	1892	1166	841	668	482	382	320	220	179	79.6
M12V180FT	NAMF120180VM0FA	2988	1994	1270	945	751	537	420	347	232	192	90.9

<sup>1</sup> Discharge data are also valid for other terminals/containers.

## Marathon M FT

### Constant power discharge

#### 1.75 Vpc – Discharge in W/block at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	8 h	10 h	24 h
M6V200FT	NAMT060200HM0FA	1798	1246	773	572	462	327	257	213	144	118	52.6
M12V35FT	NAMF120035HM0MA <sup>1</sup>	790	485	304	216	170	119	93.2	76.8	51.0	42.0	19.6
M12V50FT	NAMF120050HM0MA <sup>1</sup>	1088	668	412	293	229	163	128	106	69.6	56.1	24.0
M12V60FT	NAMF120060HM0MA <sup>1</sup>	1358	852	482	345	272	195	154	128	86.8	70.5	31.1
M12V90FT	NAMF120090HM0FA <sup>1</sup>	1980	1200	728	516	405	290	229	190	129	105	46.7
M12V105FT	NAMF120105HM0FA <sup>1</sup>	2116	1292	796	570	450	322	254	211	143	116	52.0
M12V125FT	NAMF120125HM0FA <sup>1</sup>	2307	1562	966	697	553	399	319	266	183	155	66.2
M12V155FT	NAMF120155HM0FA <sup>1</sup>	3014	1910	1171	847	673	484	386	322	220	180	80.3
M12V180FT	NAMF120180VM0FA	3093	2033	1290	952	759	541	423	350	234	193	91.5

#### 1.73 Vpc – Discharge in W/block at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	8 h	10 h	24 h
M6V200FT	NAMT060200HM0FA	1839	1281	782	577	465	329	258	214	145	118	52.7
M12V35FT	NAMF120035HM0MA <sup>1</sup>	794	487	305	217	170	120	93.5	77.0	51.2	42.2	19.7
M12V50FT	NAMF120050HM0MA <sup>1</sup>	1094	671	413	293	230	163	128	106	69.8	56.2	24.0
M12V60FT	NAMF120060HM0MA <sup>1</sup>	1371	855	483	346	273	196	154	128	87.0	70.6	31.2
M12V90FT	NAMF120090HM0FA <sup>1</sup>	2016	1212	732	518	405	291	230	191	129	105	46.8
M12V105FT	NAMF120105HM0FA <sup>1</sup>	2126	1304	800	572	451	323	255	212	144	117	52.1
M12V125FT	NAMF120125HM0FA <sup>1</sup>	2324	1573	970	699	554	400	319	267	183	155	66.5
M12V155FT	NAMF120155HM0FA <sup>1</sup>	3062	1928	1177	853	679	488	388	324	221	180	80.7
M12V180FT	NAMF120180VM0FA	3149	2051	1292	955	762	543	425	351	234	193	91.5

#### 1.70 Vpc – Discharge in W/block at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	8 h	10 h	24 h
M6V200FT	NAMT060200HM0FA	1906	1309	790	581	467	330	259	214	145	118	52.9
M12V35FT	NAMF120035HM0MA <sup>1</sup>	801	490	308	219	172	120	94.1	77.5	51.4	42.3	19.7
M12V50FT	NAMF120050HM0MA <sup>1</sup>	1104	674	414	294	231	164	128	106	70.1	56.4	24.1
M12V60FT	NAMF120060HM0MA <sup>1</sup>	1391	858	485	348	274	196	155	129	87.3	70.9	31.3
M12V90FT	NAMF120090HM0FA <sup>1</sup>	2038	1221	735	519	406	292	231	192	129	105	46.9
M12V105FT	NAMF120105HM0FA <sup>1</sup>	2142	1312	803	575	453	324	256	213	144	117	52.2
M12V125FT	NAMF120125HM0FA <sup>1</sup>	2340	1582	974	701	555	400	320	268	185	155	66.9
M12V155FT	NAMF120155HM0FA <sup>1</sup>	3137	1945	1183	857	682	491	390	326	222	180	80.9
M12V180FT	NAMF120180VM0FA	3213	2069	1295	962	765	545	426	352	235	194	91.5

#### 1.67 Vpc – Discharge in W/block at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	8 h	10 h	24 h
M6V200FT	NAMT060200HM0FA	1986	1339	799	585	469	331	260	215	145	119	53.1
M12V35FT	NAMF120035HM0MA <sup>1</sup>	808	493	309	220	173	121	94.6	77.9	51.7	42.5	19.8
M12V50FT	NAMF120050HM0MA <sup>1</sup>	1113	678	416	295	232	165	129	107	70.5	56.7	24.1
M12V60FT	NAMF120060HM0MA <sup>1</sup>	1412	862	487	349	275	196	156	130	87.6	71.1	31.3
M12V90FT	NAMF120090HM0FA <sup>1</sup>	2061	1228	737	521	407	292	231	192	129	105	47.0
M12V105FT	NAMF120105HM0FA <sup>1</sup>	2158	1321	806	577	455	325	257	213	145	117	52.4
M12V125FT	NAMF120125HM0FA <sup>1</sup>	2357	1591	978	703	557	401	320	268	185	156	67.3
M12V155FT	NAMF120155HM0FA <sup>1</sup>	3218	1961	1189	862	686	494	392	327	222	181	81.2
M12V180FT	NAMF120180VM0FA	3258	2078	1299	964	767	547	427	353	236	195	92.0

<sup>1</sup> Discharge data are also valid for other terminals/containers.

## Marathon M FT

### Constant power discharge

#### 1.65 Vpc – Discharge in W/block at 20 °C

Type	Part number	15 min	30 min	1 h	1.5 h	2 h	3 h	4 h	5 h	8 h	10 h	24 h
M6V200FT	NAMT060200HM0FA	2037	1354	805	588	471	332	260	216	146	119	53.2
M12V35FT	NAMF120035HM0MA <sup>1</sup>	812	495	309	221	174	122	95.0	78.1	51.8	42.6	19.8
M12V50FT	NAMF120050HM0MA <sup>1</sup>	1120	680	416	296	232	165	129	107	70.7	56.8	24.1
M12V60FT	NAMF120060HM0MA <sup>1</sup>	1424	865	489	350	276	197	156	130	87.8	71.3	31.4
M12V90FT	NAMF120090HM0FA <sup>1</sup>	2073	1235	739	522	408	293	231	193	130	105	47.0
M12V105FT	NAMF120105HM0FA <sup>1</sup>	2169	1326	809	579	456	326	257	214	145	118	52.5
M12V125FT	NAMF120125HM0FA <sup>1</sup>	2373	1599	981	705	557	403	321	269	186	157	67.6
M12V155FT	NAMF120155HM0FA <sup>1</sup>	3267	1977	1196	865	688	496	393	328	223	182	81.3
M12V180FT	NAMF120180VM0FA	3280	2081	1301	965	768	548	428	354	235	195	92.0



<sup>1</sup> Discharge data are also valid for other terminals/containers.

## Battery Service – Energy Solutions

### Keeping your Business in Motion

#### GNB® is the Expert

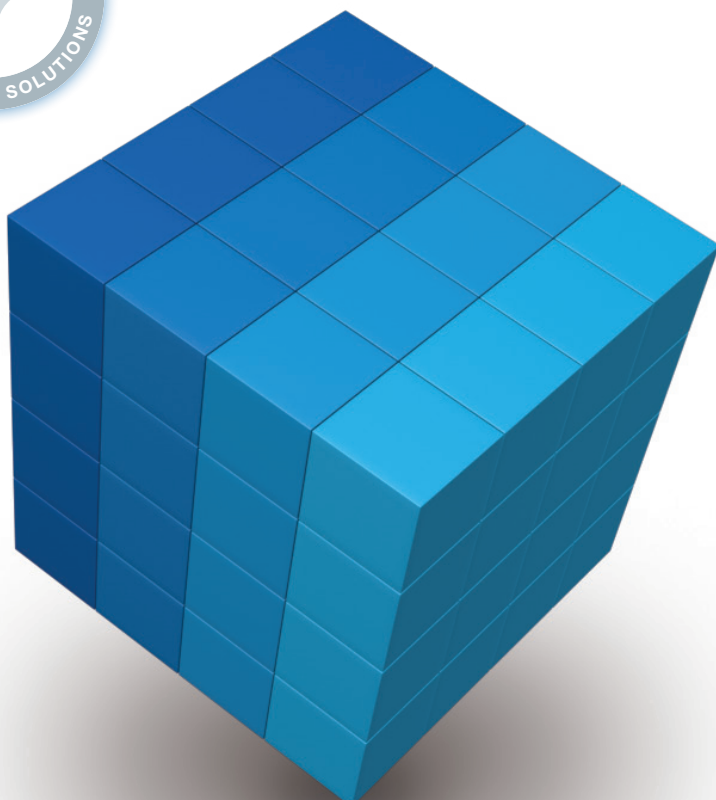
Who could do this job better than the professionals of a company with more than 100 years of experience in battery development, production and application?

Leave the responsibility for the maintenance of your batteries and chargers to the professionals: a GNB service contract provides you with exceptional economic advantages through time savings, cost savings and safety!



#### Installation of Batteries and Systems for Network Power

- > Development of complete turnkey solutions from the design concept to installation and commissioning.
- > Installation according to legal and safety regulations including CE certification by approved installation technicians.
- > Training and certification of external installation technicians according to CE regulations.



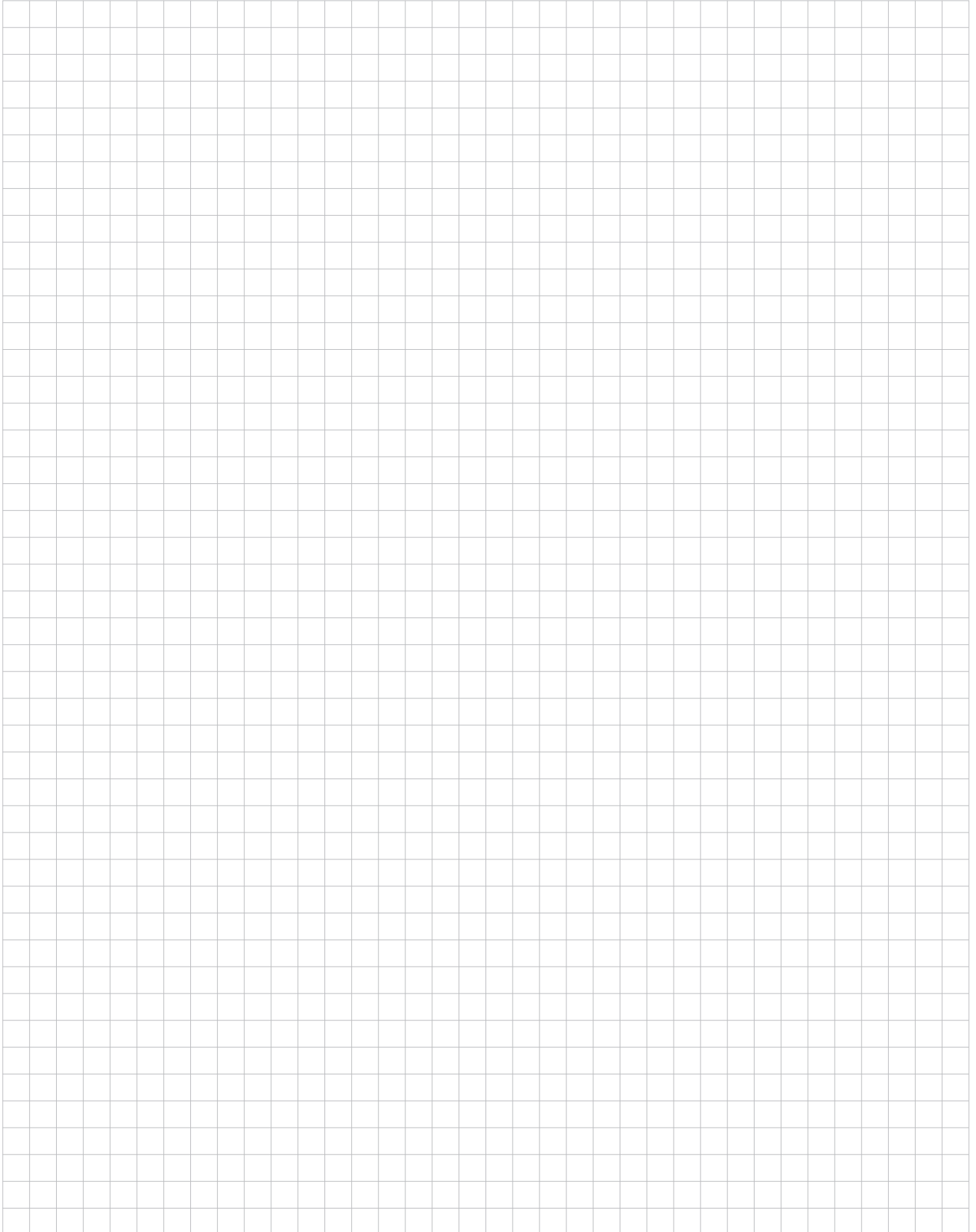
- ✦ Inspection Contract
- ✦ Maintenance Contract
- ✦ Lifetime Warranty Contract
- ✦ Full Service Contract



»GNB Service – individualized, professional and all over Europe!«

**Marathon M FT**

**Notes**

A large, empty grid of small squares, typical of graph paper, occupying the majority of the page below the header. The grid is composed of approximately 30 columns and 60 rows of squares.



**Exide Technologies**, with operations in more than **80 countries**, is one of the world's largest producers and recyclers of lead-acid batteries. Exide Technologies provides a comprehensive and customized range of stored electrical energy solutions. Based on **over 100 years of experience** in the development of innovative technologies, Exide Technologies is an esteemed partner of OEMs and serves the spare parts market for industrial and transportation applications.

**GNB® INDUSTRIAL POWER** – A division of Exide Technologies – offers an **extensive range of storage products and services**, including solutions for telecommunication systems, railway applications, mining, photovoltaic (solar energy), uninterrupted power supply (UPS), electrical power generation and distribution, fork lifts and electric vehicles.

**Exide Technologies** takes pride in its commitment to a better **environment**. Its Total Battery Management programme, (an integrated approach to manufacturing, distributing and recycling of lead-acid batteries), has been developed to ensure a safe and responsible life cycle for all of its products.



»The **next Level** of  
**Energy Management**«

**GNB® INDUSTRIAL POWER** provides long lasting energy concepts that combine efficiency with flexibility.