

# MAXRATE™ PREMIUM PLUS

for UPS applications



Optional Inserted Terminal  
Call Factory for Details

## MR12-400

(Premium Replacement for UPS12-370FR)

**VALVE REGULATED  
LEAD ACID BATTERY  
FOR UPS STANDBY  
POWER APPLICATIONS  
12V 102 AH @ 20 HR RATE,  
12V 400 WATTS/CELL @  
15 MIN RATE**

### FEATURES

- 10 year design life @ 25°C (77°F)
- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance.
- 3 Year Warranty (refer Dynasty warranty card, 41-9011)
- Patented Long Life Alloy having the lowest calcium levels in the industry - minimizing grid growth, reducing gassing, and extending battery life.
- Patented UL Recognized Flame-arresting vents in each cell for safety and long life.
- Designed with the same recombination, thermal runaway prevention, gassing and flame retardant characteristics of the Bellcore 4228 compliant Dynasty Telecom products.
- Proprietary computer modeled radial grid matrix using multiple conductors to provide the lowest internal resistance and highest current carrying capability.
- Proprietary Fixed Orifice Plate Pasting technology applying active material on both sides of the grid for consistent cell-to-cell performance, higher capacity and uniform grid protection.
- UL-recognized component complying with UL1778, 924, 1989 and 94 V-0
- Thermally welded case-to-cover bond to eliminate leakage.
- Can be operated in any orientation. Upright, side or end mounting recommended.
- Not restricted for air transport – Complies with IATA/ICAO Special Provision A67
- Not restricted for surface transport – Classified as non-hazardous material as related to DOT-CFR Title 49 parts 171-189
- Not restricted for water transport – Classified as non-hazardous material per IMDG Amendment 27.
- Flame-retardant polypropylene case and cover compliant with UL 94 V-0 with an Oxygen Limiting Index of greater than 28.

**12 Volts – 400 Watts Per Cell For 15 Minutes to 1.67 Volts per Cell**  
Constant Power Discharge Ratings – Watts Per Cell @ 77°F (25°C)

Operating Time to End Point Voltage (in minutes)

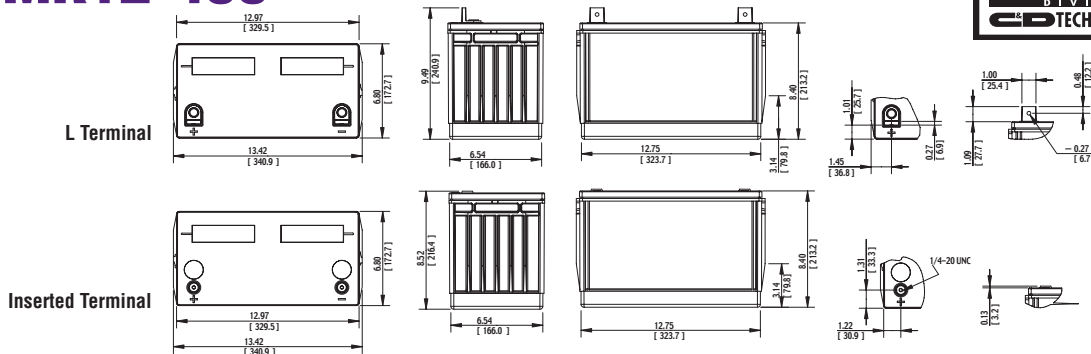
End Point Volts/Cell	10	15	20	30	40	45	50	60	90
1.67	505	400	325	237	189	172	158	136	98

**C&D Technologies, Inc.**  
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Form 41-9008 (Rev. 07/03) Printed in the U.S.A.



# MR12-400



\*All dimensions in inches and (millimeters). All dimensions are for reference only. Contact a C&D Representative for complete dimensional information.

## MR12-400 – Specifications

Cells Per Unit	Voltage Per Unit	Weight	Electrolyte	Maximum Discharge Current	Short Circuit Current	Ohms Imped. 60 Hz (Ω)
6	12.84	75.8 lbs. 34.4 kg	Absorbed H <sub>2</sub> SO <sub>4</sub> SG = 1.300	800 Amps	5100 Amps @ 0.1 sec.	0.0025 Ohms
<b>Capacity</b>		400 watts per cell at the 15 minute rate to 1.67 volts per cell at 77°F (25°C). 102 Ah @ 20 hr. rate to 1.75 volts per cell @ 77°F (25°C). 92.5 Ah @ 10 hr. rate to 1.80 volts per cell @ 20°C (68°F).				
<b>Operating Temperature Range</b>		<b>Discharge:</b> -40°F (-40°C) to +160°F (71°). <b>Charge:</b> -10°F (-23°C) to +140°F (60°) (with temperature compensation)				
<b>Nominal Operating Temperature Range</b>		+74°F (23°C) to +80°F (27°C).				
<b>Floating Charging Voltage</b>		13.5 to 13.8 VDC/unit Average at 77°F (25°C).				
<b>Recommended Maximum Charging Current Limit</b>		C/5 amperes (20.4 amperes @ 100% depth of discharge) @ 20 hr. rate.				
<b>Equalization and Cycle Service Charging Voltage</b>		14.4 to 14.8 VDC/unit Average at 77°F (25°C).				
<b>Maximum AC Ripple (Charger)</b>		0.5% RMS or 1.5% P-P of float charge voltage recommended for best results. Maximum voltage allowed = 1.4% RMS (4% P-P). Maximum current allowed = 5.10 amperes RMS (C/20).				
<b>Self Discharge</b>		Dynasty MaxRate batteries may be stored for up to 6 months at 77°F (25°C) and then a freshening charge is required. For higher temperatures the time interval will be shorter.				
<b>Accessories</b>		Inter unit connectors, racks and cabinet systems are available.				
<b>Terminal: L</b>		“L” terminal with 0.28" clearance hole to accept 0.25" (6mm) bolt.				
<b>Terminal Hardware Initial Torque: L Terminal</b>		65 in.-lbs. (7.4 N-m); Annual Retorque: 52 in.-lbs. (5.88 N-m).				
<b>Terminal: Inserted</b>		Threaded copper alloy insert terminal to accept 1/4-20 UNC bolt.				
<b>Terminal Hardware Initial Torque: Inserted Terminal</b>		110 in.-lbs. (12.4 N-m).				

## Constant Power Discharge Ratings – Watts Per Cell @ 77°F (25°C)

End Point Volts/Cell	Operating Time to End Point Voltage (in minutes)								
	10	15	20	30	40	45	50	60	90
1.75	461	377	312	230	184	168	154	133	96
1.70	490	390	319	234	187	170	156	135	97
1.67	505	400	325	237	189	172	158	136	98
1.65	515	406	329	239	191	174	160	137	99
1.60	525	412	333	241	193	175	161	138	100

## Constant Current Discharge Ratings – Amperes @ 77°F (25°C)

End Point Volts/Cell	Operating Time to End Point Voltage (in hours)									
	1	2	3	5	8	10	12	20	24	72
1.85	56.0	33.0	23.9	15.8	10.8	8.90	7.58	4.77	4.00	1.38
1.80	62.0	35.3	25.3	16.6	11.4	9.44	8.02	4.99	4.18	1.43
1.75	68.0	38.0	27.0	17.6	11.9	9.80	8.30	5.10	4.27	1.46

**Note:** Batteries to be mounted with 0.5 in (1.25 cm) spacing minimum and free air ventilation. Specifications subject to change without notification.