

# **BATTERY-MATE 80**<sup>®</sup> *Single & Three Phase Ferroresonant Industrial Battery Chargers*



## ***The Battery-Mate 80 is Quality Designed to Provide Efficient, Problem Free Charging Everytime***

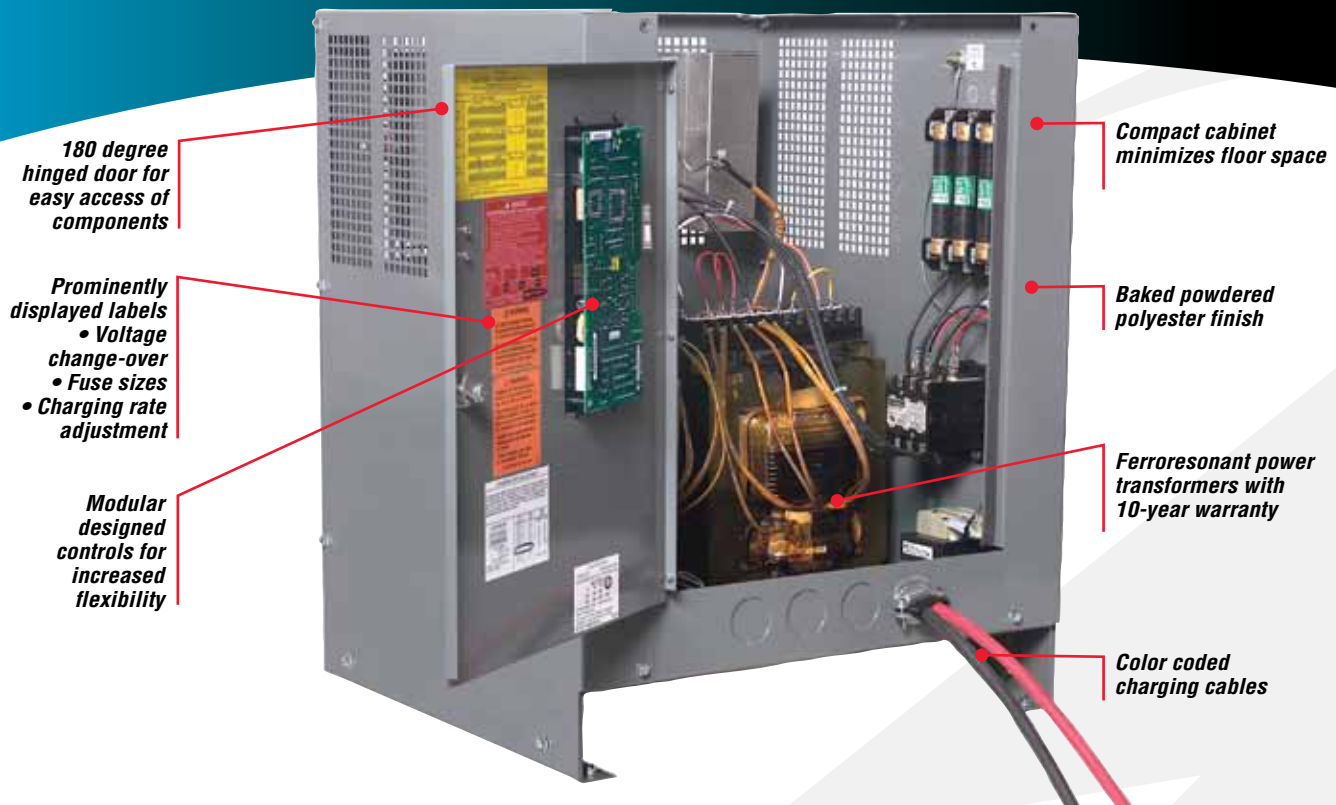
*The Battery-Mate 80 is engineered for one and two shift operations. Manufactured to meet the most stringent requirements of industrial and distribution applications.*

*It is rated to recharge normally discharged batteries in 8 hours or less.*

- *Charges 80% discharged batteries in 8 hours or less*
- *Interchangeable control design*
- *Economically priced*
- *Fail-safe design*
- *Quality-built for years of trouble-free service*
- *Ten-year transformer & diode warranty*
- *UL and cUL listed and meets BCI standards*



# BATTERY-MATE80<sup>®</sup> | For Dependable



**180 degree hinged door for easy access of components**

**Prominently displayed labels**  
• Voltage change-over  
• Fuse sizes  
• Charging rate adjustment

**Modular designed controls for increased flexibility**

**Compact cabinet minimizes floor space**

**Baked powdered polyester finish**

**Ferroresonant power transformers with 10-year warranty**

**Color coded charging cables**

## **Designed for Quality & Value**

The Battery-Mate 80 is an industrial-rated charger, value-designed and extensively engineered to furnish an efficient, problem-free charge each time a battery is connected. Sized and rated to charge 80% discharged batteries in 8 hours or less, the Battery-Mate 80 uses ferroresonant power conversion circuitry, which is virtually maintenance-free, to provide years of dependable service. The power conversion circuitry maximizes battery life by using a constantly tapering charge which is automatically regulated by the "On Charge" battery voltage. The output current of the charger is determined by the state of discharge of the battery. The battery is precisely charged, based on its depth of discharge.

## **Low Operating Cost**

The Battery-Mate 80 is inherently efficient due to its ferroresonant circuitry, the most utilized method of charging lead acid batteries.

## **Interchangeable Control Design**

The Battery-Mate 80 is designed to allow the quick and easy installation or removal of the controls. Unmatched in the industry, this design allows controls to be inter-changed in minutes for greater control, flexibility and automation of any battery charging operation.

## **Control Options**

Depending on your charging requirements, the Battery-Mate 80 can be controlled by any one of the following controls: AC1000 and AC2000.

## **Automatic Operation**

After the battery is connected, the Battery-Mate 80 will automatically start the charging operation. When the battery is fully charged, the charger will automatically terminate the operation.

## **Single & Three Phase Service**

The Battery-Mate 80 is available in a variety of single or three phase models. Each model provides multiple AC input voltages for increased flexibility of the charging operation.

## **Easy to Change AC Input Voltage**

AC input voltage change-overs take just minutes because of conveniently located taps and quick-connect jumpers.

## **Adjustable DC Output**

In rare instances where changes to the DC output might be required, necessary adjustments are made simple with conveniently located quick-connect jumpers.

## **Rating**

The Battery-Mate 80 is rated to recharge a 80% discharged battery in its ampere-hour rating within eight hours.

# & Efficient Charging Every Time!

### Regulation

The Battery-Mate 80 will hold the finish rate of the charge within  $\pm 1\%$ , even with line voltage variations as high as  $\pm 10\%$ . This protects, and properly charges the battery, even when severe input voltage variations exist.

### Convection Cooled & Quiet

The Battery-Mate 80 uses no fans to draw in dirty air and has low sound levels for quiet operation.

### Battery Charger Safeguards

The Battery-Mate 80 is internally protected against overload, short circuit, reverse polarity connection, voltage transients and other unsafe failure modes. These safeguards protect the charger and battery, assuring longer life for both.

### Warranty

Minimize repair costs with ten year original purchaser warranty on power transformers and silicon diodes, plus one year warranty on other components.

### Accessible Cabinet Design

The Battery-Mate 80 has been designed to conveniently facilitate charger adjustment and any necessary service or maintenance requirements. The front door opens to 180 degrees to provide easy access to all major components.

### Minimizes Floor Space

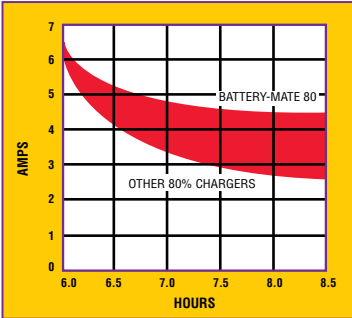
Because of its compact cabinet, the Battery-Mate 80 requires a minimum amount of floor space. All case styles can be wall, bench or floor mounted and all cases are stackable up to 3 high to save more floor space.

### UL, cUL and BCI

Most Battery-Mate 80 models are UL and cUL listed and meet BCI standards, adding further support to the "safety first" design.

### 100% Finish Rate

The Battery-Mate 80 is designed to provide a higher finish rate than other similarly rated 80% chargers. Because of the Battery-Mate 80's higher finish rate, batteries receive the precise recharge characteristics they require to maximize battery life.



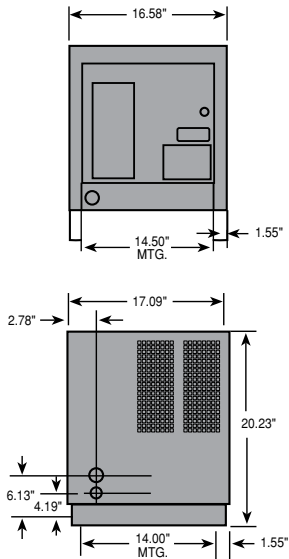
The above graph shows the last two hours of the charge cycle and illustrates the higher finish rate of the Battery-Mate 80. The output current of the Battery-Mate 80 at finish is 4.5 amps per 100A-H of the battery, compared to 2.6 amps for most other 80% chargers.

### Quality-Built for Years of Trouble-Free Service

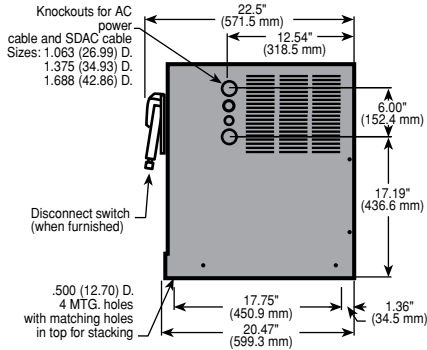
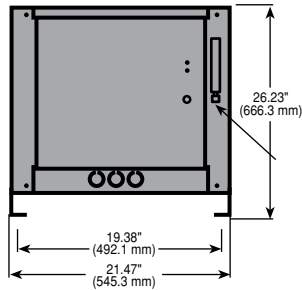
The Battery-Mate 80, as with all our products, is engineered to meet the everyday challenges associated with charging batteries. Unmatched in construction, reliability and value, the Battery-Mate 80 is subject to intensive quality control and test procedures to ensure many years of trouble-free service.

### Dimensions

#### "M" Case



#### "H" Case



# BATTERY-MATE80®

Single & Three Phase Ferroresonant  
Industrial Battery Chargers

## Battery-Mate 80 Models

Single Phase Models				Max AC Amps RMS					Cabinet Size	Weight Lbs.
Model #	Amp Hour	DC Volts	DC Amps	@120 VAC	@208 VAC	@240 VAC	@480 VAC	@575 VAC		
380M1-6C	380	12	65	10.8	6.2	5.4	2.7	2.2	M	95
450M1-6C	450	12	77	12.9	7.4	6.4	3.2	2.7	M	105
510M1-6C	510	12	87	13.6	7.9	6.8	3.4	4.9	M	110
600M1-6C	600	12	102		10.2	8.9	4.4	3.7	M	115
250M1-12C	250	24	43	13.1	7.5	6.6	3.3	2.7	M	105
380M1-12C	380	24	65	21	12.1	10.5	5.3	4.4	M	110
450M1-12C	450	24	77		13.8	12	6	5	M	120
510M1-12C	510	24	87		15.6	13.6	6.8	5.6	M	120
600M1-12C	600	24	102		18.5	16.1	8.1	6.7	M	145
750M1-12C	750	24	128		25.2	21.9	11	9.1	M	150
880M1-12C	880	24	150		29.2	25.4	12.7	10.6	M	175
965H1-12C	965	24	164		30.8	26.9	13.4	11.2	H	215
510M1-18C	510	36	87		22.1	19.3	9.6	8	M	175
600M1-18C	600	36	102		28	24.4	12.2	10.1	M	180
750M1-18C	750	36	128		35.6	31	15.5	12.9	M	190
880H1-18C	880	36	150		42.2	36.6	18.3	15.3	H	290
965H1-18C	965	36	164		44.3	38.4	19.2	16	H	335
1050H1-18C	1050	36	179		45	37	19.5	16.3	H	350
1275H1-18C	1275	36	216		N/A	50.6	25.3	21.1	H	385
450M1-24C	450	48	77		25.7	22.4	11.2	9.3	M	170
510M1-24C	510	48	87		29.9	26.1	13	10.8	M	175
600M1-24C	600	48	102		36	31.4	15.7	13	M	190
750H1-24C	750	48	128		47	40.8	20.4	17	H	310
Three Phase Models				Max AC Amps RMS					Cabinet Size	Weight Lbs.
Model #	Amp Hour	DC Volts	DC Amps	@120 VAC	@208 VAC	@240 VAC	@480 VAC	@575 VAC		
600H3-6C	600	12	102		5.3	4.6	2.3	1.9	H	185
510H3-12C	510	24	87		8.9	7.8	3.9	3.2	H	190
600H3-12C	600	24	102		10.9	9.5	4.8	3.9	H	195
750H3-12C	750	24	128		12.7	11	5.5	4.6	H	200
880H3-12C	880	24	150		15.2	13.3	6.6	5.5	H	240
965H3-12C	965	24	164		16.6	14.5	7.2	6	H	245
1050H3-12C	1050	24	179		17.5	15.2	7.6	6.3	H	250
1260H3-12C	1260	24	214		21.3	18.6	9.3	7.7	H	280
510H3-18C	510	36	87		13	11.3	5.7	4.7	H	220
600H3-18C	600	36	102		14.7	12.8	6.4	5.3	H	240
750H3-18C	750	36	128		18.2	15.8	7.9	6.6	H	275
880H3-18C	880	36	150		21.9	19.1	9.5	7.9	H	285
965H3-18C	965	36	164		23.5	20.5	10.2	8.5	H	295
1050H3-18C	1050	36	179		25.8	22.5	11.2	9.3	H	300
1260H3-18C	1200	36	214		31.8	27.7	13.9	11.5	H	325
1400H3-18C	1400	36	238		32.3	28	14	11.7	H	390
380H3-24C	380	48	65		13.3	11.5	5.8	4.8	H	195
600H3-24C	600	48	102		18.8	16.4	8.2	6.8	H	280
750H3-24C	750	48	128		24	20.9	10.5	8.7	H	285
880H3-24C	880	48	150		27	23.5	11.8	9.8	H	330
965H3-24C	965	48	164		31.1	27.1	13.6	11.3	H	360
1050H3-24C	1050	48	179		35	30.5	15.3	12.7	H	365
1260H3-24C	1260	48	214		43.5	37.7	18.9	15.7	H	425
510H3-40C	510	80	87		27.9	24.2	12.1	10.1	H	360
600H3-40C	600	80	102		34.6	30	15	12.5	H	365
750H3-40C	750	80	128		46.6	40.4	20.2	16.9	H	425

AC Input Configurations Available: 120/208/240, 208/240/480, 480/575

Control Features	Model	
	AC1000	AC2000
Automatic start/stop	•	•
Timed delay start	•	•
PT/DV/DT termination	•	•
VT termination	•	•
Universal control for 6,12,18, 24,36 cell	•	•
Back-up timers	•	•
AC fail recovery	•	•
Battery/charger mismatch protection	•	•
Refresh charge	•	•
Automatic equalize	•	•
Full battery reject		•
Modular design	•	•
Optional start modes	•	•
Forming cycles	•	•
Extended run time	•	•
Optional equalize modes		•
Data-Mate compatible		•
99 cycle archive		•
Cool down	•	•
Thermal runaway protection		•
80% volts/cell	•	•
AC power/reset charge cycle option	•	

### Full Line of Automatic Start/Stop Controls



Series AC1000

Series AC2000

For more charger control information, see the following:  
AC1000 – data sheet 1322  
AC2000 – data sheet 1320



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