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HR SERIES-HIGH RATE **BATTERIES**

HR 12390W



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HR 12390W



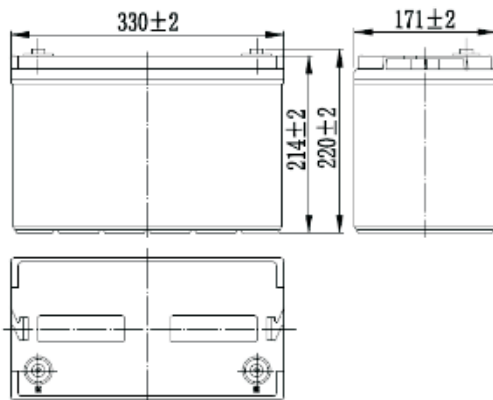
SPECIFICATIONS

Nominal Voltage	12V	
Number of Cell	6 cells	
Rated Capacity (15min. rat)	390 Watts/cell	
Dimensions	Length	330±2mm(12.99inch)
	Width	171±2mm(6.73inch)
	Height	214±2mm(8.43inch)
	Total Height	220±2mm(8.66inch)
Approx. Weight	32.7kg (72.1lbs)±3%	

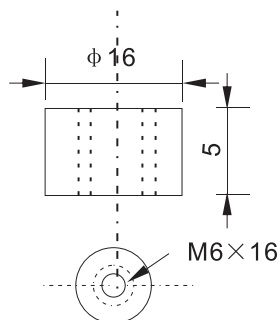
CHARACTERISTICS

Capacity (20HR, 25°C)	110Ah	
Capacity (15min.rate, 25°C)	390 Watts/cell	
Terminal Type	T14	
Internal Resistance (Fully Charged, 25°C)	Approx. 4mΩ	
Capacity Affected by Temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-Discharge (25°C)	3 months	Remaining Capacity: 91%
	6 months	Remaining Capacity: 82%
	12months	Remaining Capacity: 65%
Nominal Operating Temperature	25±3°C (77±5°F)	
Operating Temperature Range	Discharge	-15°C~50°C(5°F~122°F)
	Charge	-10°C~50°C(14°F~122°F)
	Storage	-20°C~50°C(4°F~122°F)
Float Charging Voltage (25°C)	13.50 to 13.80V Temperature Compensation: -18mV/°C	
Cyclic Charging Voltage (25°C)	14.50 to 15.00V Temperature Compensation: -30mV/°C	
Maximum Charging Current	33A	
Terminal Material	Copper	
Maximum Discharge Current	800A(5 sec)	
Design Floating Life(20°C)	10 Years	

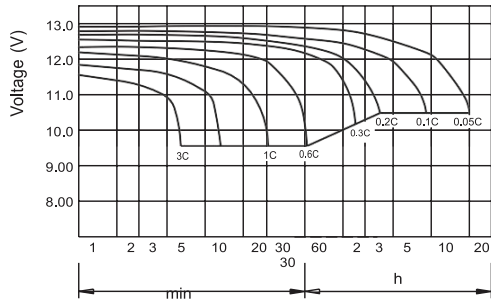
Outer Dimensions (mm)



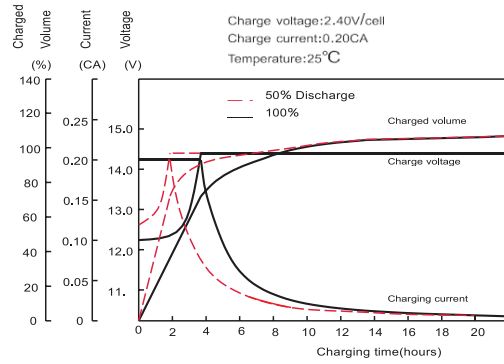
Terminal Type (mm)



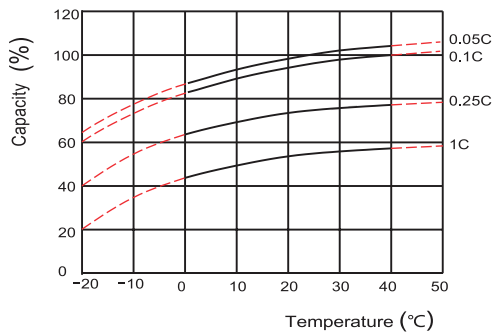
Discharge Characteristics



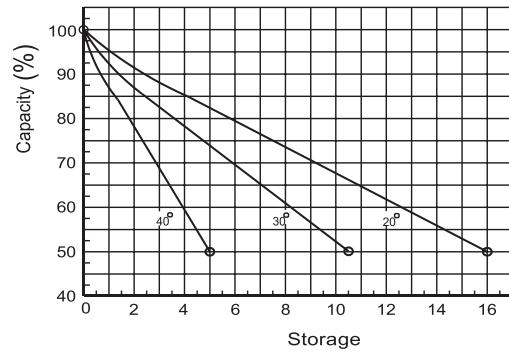
Charging Characteristics (25°C)



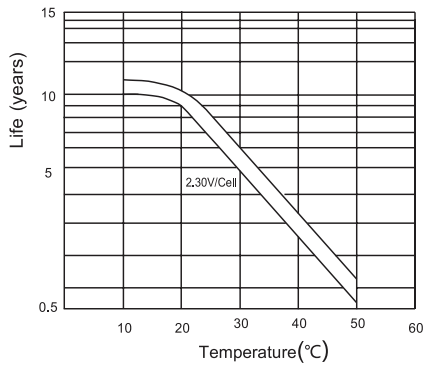
Effect of Temp on Capacity



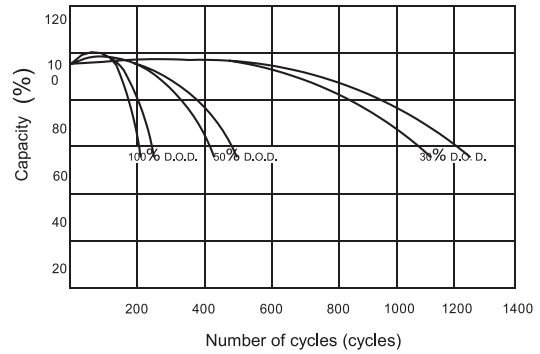
Self-Discharge Characteristics



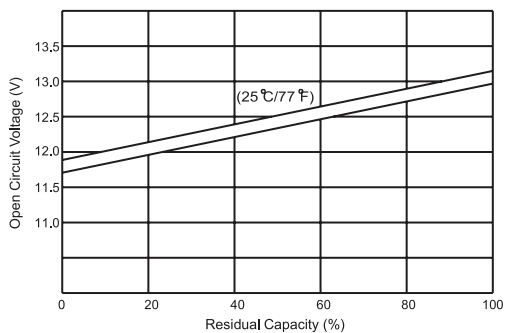
Floating Life on Temperature



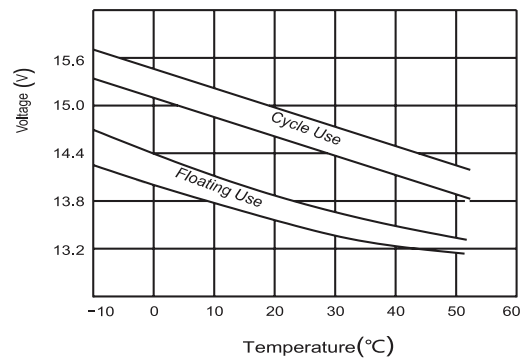
Cycle Service Life on D.O.D (25°C)



Relationship for OCV and Capacity (25°C)



Relationship for Charging Voltage and Temp



Construction

Component	Positive Plate	Negative Plate	Container	Cover	Separator	Electrolyte	Safety Valve	Terminal
Raw material	Lead Dioxide	Lead	ABS	ABS	AGM	Sulfuric Acid	Rubber	Copper

Constant Current Discharge Characteristics Unit: A(25°C, 77°F)

F.V/Time	10min	15min	20min	30min	45min	60min	2h	3h	4h	5h	6h
1.60V/cell	255	208	167	118	88.0	71.8	38.4	27.5	22.2	19.3	16.5
1.67V/cell	243	202	160	114	85.2	70.0	38.0	27.3	22.0	19.1	16.3
1.70V/cell	237	196	157	112	83.6	68.9	37.8	27.2	21.9	19.0	16.3
1.75V/cell	227	189	151	110	81.6	67.6	37.2	27.0	21.7	18.9	16.2
1.80V/cell	214	179	143	105	78.6	65.5	36.3	26.2	21.1	18.3	15.7

Constant Power Discharge Characteristics Unit: W(25°C, 77°F)

F.V/Time	10min	15min	20min	30min	45min	60min	2h	3h	4h	5h	6h
1.60V/cell	479	402	322	228	170	139	74.8	54.2	43.7	38.2	32.7
1.67V/cell	457	390	309	221	164	135	74.2	53.7	43.3	37.8	32.4
1.70V/cell	445	378	303	217	161	133	73.7	53.5	43.1	37.7	32.2
1.75V/cell	426	365	292	211	157	130	72.6	53.2	42.8	37.4	32.0
1.80V/cell	402	346	277	204	152	126	70.8	51.6	41.5	36.3	31.1



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