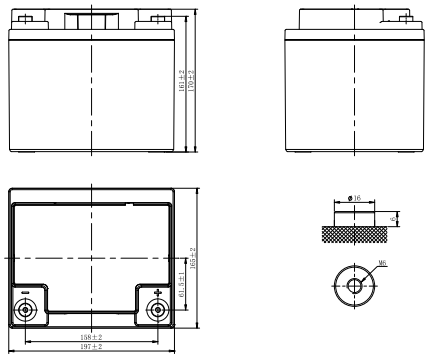
# KBHR12450 12V 45Ah

The Kaise HR batteries were specially designed for applications that demand a very high energy output. With an optimized design of the grids and an excellent formula for pasting the plates, the HR series can deliver up to 40% more than the standard series.


## Performance Characteristics

| | | |
|---|---|---|
| Nominal Voltage | | 12V |
| Nominal Rate ($W_{15}$ ,1.67V/cell) | | 160W |
| Nominal Capacity ($C_{10}$ ,1.80V/cell) | | 45Ah |
| Dimensions | Length (mm / inch) | 197±2 / 7.76 |
| | Width (mm / inch) | 165±2 / 6.50 |
| | Height (mm / inch) | 170±2 / 6.69 |
| | Total Height (mm / inch) | 170±2 / 6.69 |
| Approx Weight | (Kg / lbs) | 14.2 / 31.3 |
| Design Life | 12 years | |
| Terminal | M6 | |
| Container Material | ABS: UL 94 HB or V-0 optional | |
| Rated Capacity | 45.0Ah / 4.50A | (10hr, 1.80V / cell, 25ºC / 77ºF) |
| | 39.6Ah / 7.92A | (5hr, 1.75V / cell, 25ºC / 77ºF) |
| | 29.0Ah / 29.0A | (1hr, 1.67V / cell, 25ºC / 77ºF) |
| Short-circuit current | 1125A | |
| Internal Resistance (25ºC) | Approx 9.0mΩ | |
| Operating Temp. Range | Discharge : -20 ~ 55ºC (-4 ~ 131ºF) | |
| | Charge : -20 ~ 40ºC (-4 ~ 104ºF) | |
| | Storage : -15 ~ 50ºC (5 ~ 122ºF) | |
| Nominal Operating Temp. Range | 25 ± 3ºC (77 ± 5ºF) | |
| Max. Charging Current (25ºC) | 11.25A | |
| Charge voltage (25ºC) | | Charge voltage / Temp. Coefficient |
| | Cycle Use | 13.8V ~14.4V / -3mV/cell/ºC |
| | Standby Use | 13.5V~13.8V / -4mV/cell/ºC |
| Capacity affected by Temperature | 40ºC (104ºF) | 106% |
| | 25ºC ( 77ºF) | 100% |
| | 0ºC ( 32ºF) | 86% |
| Self Discharge | Fully charged Kaise High Rate Series batteries may be stored for up to 6 months at 25ºC (77ºF) and then a freshening charge is required. For higher temperatures the time interval will be shorter. | |

## Dimensions and Terminal (Unit: mm (inches))



## Applications

UPS
High power backup supply
Electric facilities
Power tools

## Certifications

ISO 9001 / ISO 14001

## Discharge Current vs. Discharge Voltage

| Final discharge voltage V/CELL | 1,8 | 1,75 | 1,7 | 1,6 |
|---|---|---|---|---|
| Discharge current (A) | I ≤ 0,1CA | 0.25CA ≥ I > 0.1CA | 0.55CA ≥ I > 0.25CA | I > 0.55CA |

## Discharge Constant Current (Amperes) at 25ºC (77ºF)

| Volts/cell | 10min | 15min | 20min | 30min | 1h | 3h | 5h | 8h | 10h |
|---|---|---|---|---|---|---|---|---|---|
| 1.80V | 86.7 | 75.1 | 58.9 | 41.5 | 26.5 | 11.6 | 7.70 | 5.23 | 4.50 |
| 1.75V | 94.1 | 81.3 | 63.6 | 44.6 | 27.6 | 12.0 | 7.92 | 5.28 | 4.52 |
| 1.70V | 100.3 | 86.3 | 67.4 | 47.3 | 28.3 | 12.2 | 8.10 | 5.36 | 4.55 |
| 1.67V | 103.5 | 88.8 | 69.3 | 48.4 | 29.0 | 12.5 | 8.21 | 5.42 | 4.62 |
| 1.60V | 107.0 | 91.6 | 71.0 | 49.6 | 29.5 | 12.8 | 8.37 | 5.45 | 4.64 |

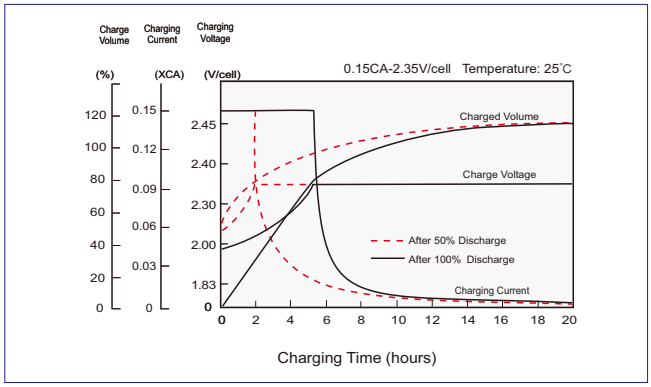
## Discharge Constant Power (Watts per cell) at 25ºC (77ºF)

| Volts/cell | 10min | 15min | 20min | 30min | 1h | 3h | 5h | 10h |
|---|---|---|---|---|---|---|---|---|
| 1.80V | 160.8 | 140.3 | 110.9 | 78.6 | 51.0 | 22.5 | 15.1 | 8.94 |
| 1.75V | 171.6 | 149.8 | 118.3 | 83.9 | 52.8 | 23.3 | 15.5 | 8.96 |
| 1.70V | 180.4 | 157.4 | 124.4 | 88.2 | 53.8 | 23.7 | 15.8 | 9.02 |
| 1.67V | 183.4 | 160.0 | 126.4 | 89.6 | 55.0 | 24.1 | 15.9 | 9.14 |
| 1.60V | 185.9 | 162.2 | 128.2 | 90.9 | 55.6 | 24.5 | 16.2 | 9.18 |

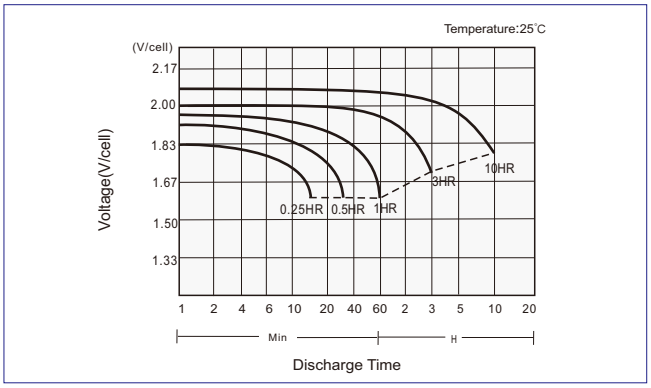
(Note) The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

# KBHR 12450 12V 45Ah

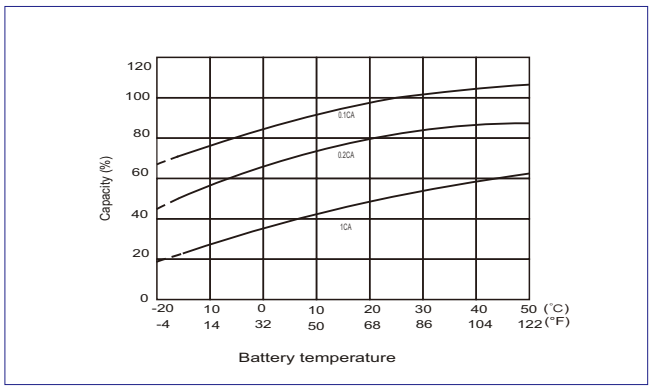
## Charging Characteristics



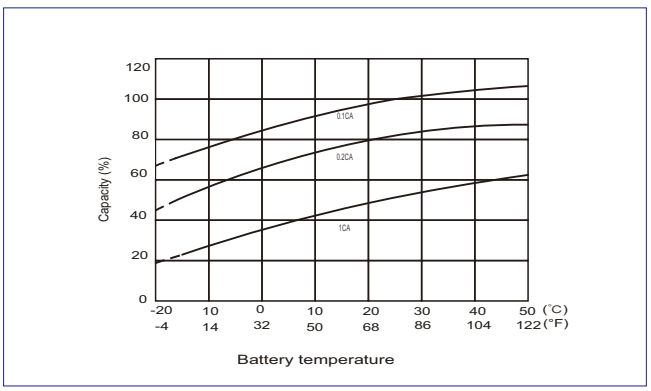

## Discharge Characteristics




## Effects of Temperature on Capacity




## Self Discharge Characteristics




IMPORTANT NOTE: The specifications presented herein are subject to revision without notice.

2024/V1/L


Contacto
customer.energy@tempelgroup.com
www.tempelgroup.com