

# 12 HTB 150

High Temperature Break through Innovation

## Narada

stored energy solutions for a demanding world

Designed and manufactured with 8 exclusive patented technologies, Narada have created an innovative range of high temperature batteries. The 313K series is designed to cope with the most extreme temperatures and environments. The advanced technology and unique manufacturing methods enable 313K batteries to deliver at least twice the cycle life of conventional lead- acid batteries, making them the first choice increasing power demands in remote hybrid telecom sites and other tough off-grid applications.

### Standards

Test standards	IEC60896-21/-22, IEC61427, YD/T799 etc.
Safety standard, ventilation	EN 50272-2
Manufactured under system	ISO9001/TL9000 & ISO14001 by Narada

313K

12V Series

### High Temperature Batteries

#### Benefits

- Excellent deep cycling capability
- Suitable for continuous operation at temperatures in excess of 35°C
- Reduced system operating costs
- 25% electricity power saving
- Up to 100% air conditioner maintenance saving
- Up to 100% condensing agent saving
- 30% CO<sub>2</sub> gas emission reduce
- Less than 1 year payback period depend on environment



#### Technical specifications

##### Electrical data

Nominal voltage	12 V
Number of cells	6
Rated capacity(35°C)	155Ah- 15.5 A for 10h to 1.80V/cell
Rated capacity(25°C)	150Ah- 15 A for 10h to 1.80V/cell
Internal resistance	4.8mΩ (acc. to IEC60896-21)
Short circuit current	2560A (acc. to IEC60896-21)
Self discharge(35°C)	less than 5% per month
Design life at 35°C	10 years

##### Mechanical data

Weight ready for use	56.0 kg (123.5 lbs)
Length	546 mm (21.5 in)
Width	125 mm (4.92 in)
Height of monobloc	310 mm (12.20 in)
Total height	310 mm (12.20 in)
Terminal	M 6 female
Terminal hardware torque	7-9 Nm

#### Constant Current Discharge Data Units: Amperes (35°C,95°F)

End voltage	5min	15min	45min	1hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	12hr	20hr	24hr
1.60Vpc	360	237	128	106	63.1	45.5	35.8	29.5	25.2	19.5	15.9	13.4	8.33	7.01
1.67Vpc	332	227	126	104	62.5	45.3	35.6	29.4	25.1	19.4	15.9	13.4	8.30	6.98
1.70Vpc	317	220	123	102	61.8	44.8	35.3	29.2	24.9	19.3	15.8	13.4	8.30	6.98
1.75Vpc	302	207	117	97.0	59.6	43.7	34.6	28.8	24.7	19.2	15.8	13.3	8.24	6.93
1.80Vpc	260	190	112	93.4	58.0	42.6	33.9	28.2	24.2	18.8	15.5	13.1	8.18	6.89
1.83Vpc	244	173	106	89.5	56.2	41.5	33.0	27.5	23.5	18.3	15.0	12.8	7.94	6.68
1.85Vpc	219	165	96.8	81.7	52.3	39.3	31.7	26.7	23.2	18.3	15.2	13.0	8.27	6.99

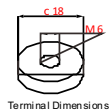
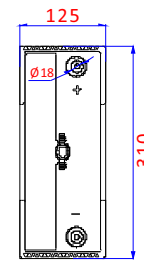
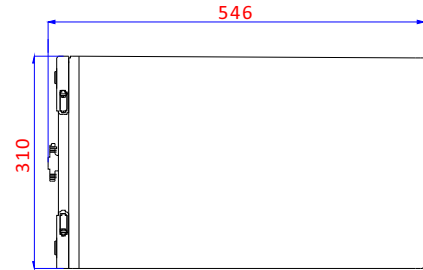
#### Constant Power Discharge Data Units: Watts per cell (35°C,95°F)

End voltage	5min	15min	45min	1hr	2hr	3hr	4hr	5hr	6hr	8hr	10hr	12hr	20hr	24hr
1.60Vpc	607	412	229	193	119	87.3	69.4	57.8	49.6	38.7	31.9	27.1	17.0	14.3
1.67Vpc	562	401	228	192	119	87.0	69.1	57.4	49.2	38.4	31.5	26.8	16.8	14.1
1.70Vpc	549	391	224	189	117	86.3	68.7	57.2	49.1	38.3	31.5	26.8	16.7	14.1
1.75Vpc	526	369	213	181	114	84.6	67.8	56.7	48.9	37.9	31.2	26.4	16.5	14.0
1.80Vpc	486	354	207	176	111	82.6	66.2	55.3	47.7	37.4	30.8	26.3	16.5	14.0
1.83Vpc	402	327	202	173	110	81.6	65.3	54.5	46.9	36.7	30.2	25.7	16.1	13.6
1.85Vpc	388	317	197	169	108	80.1	64.2	53.6	46.2	36.2	29.8	25.4	16.0	13.5

## Construction

Positive plate	Reinforced grids in a corrosion-resistant pure lead, high tin, low calcium alloy
Negative plate	Lead-calcium alloy grid
Separator	High density microporous glass mat with low electrical resistance
Container & lid	High temperature ABS. Optional flame retardant versions available (UL94 FV-0 with L.O.I. of 28%)
Electrolyte	Sulphuric acid absorbed in AGM
Terminal design	Patented leak resistant seal configuration with brass insert
Safety valve	Calibrated opening pressure , the valve equipped with flame arrestors for increased operational safety and service life.

## Dimensions (mm)

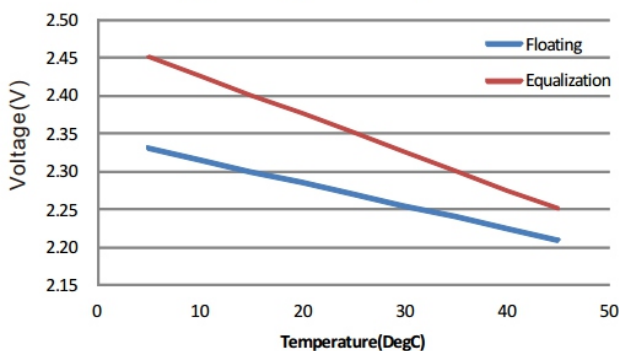


## Installation and operation

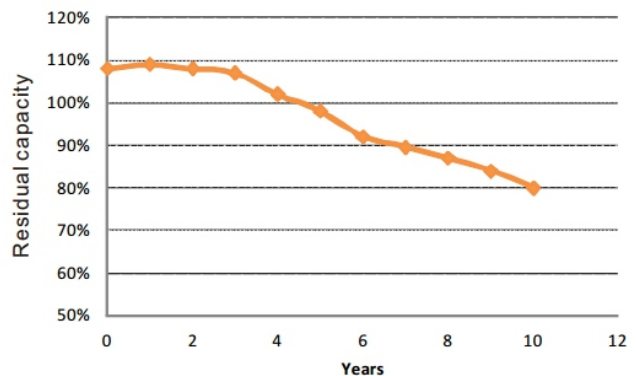
• Recommended float charge voltage compensation in function of temperature	2.24V per cell at 35°C -3mV/°C/cell
• Cycle and equalize charge voltage: compensation in function of temperature	2.30V per cell at 35°C -5mV/°C/cell
• CC-CV charge current	unlimited, otherwise 0.25C <sub>10</sub> A max. if T>25°C
• Preferred operating temperature range	15°C to 35°C(68°F to 95°F)
• Maximum operating temperature range	-40°C to 80°C(-40°F to 176°F)
• A separate battery room	is not necessary
• Reduced maintenance	no water addition required.

## Charge voltage and Expect life

Charge voltage vs. temperature



Expect life at 35°C



**NARADA POWER SOURCE CO.,LTD.**  
 Building A, No.822 Wen'er West Road, Hangzhou, China  
 Tel:+86-571-56975980 Fax:+86-571-56975955  
 E-mail: intl@narada.biz  
 Website:www.naradapower.com

**NARADA ASIA PACIFIC PTE.LTD.**  
 Block 9 Khaki Bukit Road 1 #02-10 Eunos Technolink,  
 Singapore 415938 Email: sales@narada-ap.com  
 Tel: +65-6848 1191 Fax: +65-6749 3498  
 Website: [www.narada-ap.com](http://www.narada-ap.com)

**NARADA EUROPE (UK) LIMITED**  
 Spectrum House, Dunstable Road, Redbourn,  
 St. Albans, Herts AL3 7PR  
 Tel: +44 (0)845 371 7095 Fax:+44 (0)845 612 2031  
 E-mail: sales@naradaeurope.com

