

P@WERSAFE NXT



Longer hours
Faster recovery
3 year warranty



Introduction:

After 10 years of experience in VRLA with Shin Kobe, Exide has finally launched new Exide Powersafe NXT with the cycle life unmatched with competition nationally and internationally with its unique feature of 5 hours quick recharge option.

Features:

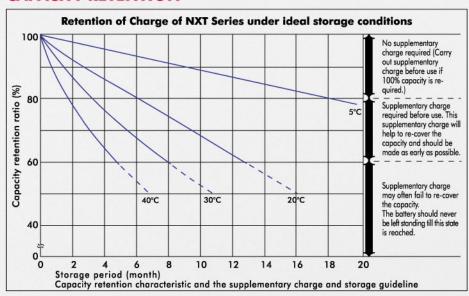
- Deep cycle application
- Fast recovery from deep discharge
- Extended cycle life
- Fast recharge capability
- Excellent charge retention
- International size
- > Free from orientation constraints
- Eco-friendly

Specification Table

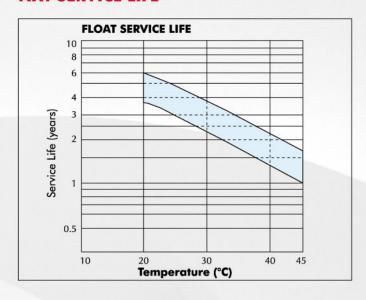
	Nominal Voltage (V)	Rated Capacity (Ah) at 27°C								(Dimensions in mm)					Maximum	
Battery Type		20hr. 1.75 V/cell	10hr. 1.75 V/cell	5hr. 1.75 V/cell	3hr. 1.75 V/cell	1.75	90 mins. 1.75 V/cell	60 mins 1.75 V/cell	30 mins 1.75 V/cell	Overall Height +/-3	Height up to lid +/-3	Length +/-2	0.0000000000000000000000000000000000000	Weight (Kg.) +/-5%	Resistance	Discharge Current (Amps)
NXT 17-12	12	17	15.5	14.0	13.0	12.0	11.0	9.5	7.5	167	167	181	76	5.90	15	255
NXT 26-12	12	26	23.5	21.0	19.5	18.0	17.0	14.5	11.5	175	175	166	125	9.60	10	390
NXT 42-12	12	42	38.0	34.0	31.5	29.5	27.5	23.0	19.0	170	170	197	165	13.80	8	420
NXT 65-12	12	65	58.5	52.5	49.0	45.5	43.0	36.0	29.5	174	174	350	166	22.00	8	500
NXT 100-12	12	100	90.0	81.0	75.0	70.0	66.0	55.0	45.0	235	235	407	173	35.00	6	600
NXT 150-12	12	150	135.0	121.5	112.5	105.0	99.0	82.5	67.5	240	240	557	172	50.00	6	900
NXT 200-12	12	200	180.0	162.0	150.0	140.0	132.0	110.0	90.0	240	240	533	250	67.00	5	1200

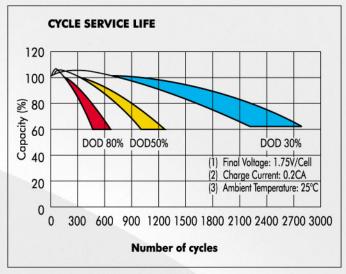
Note: Batteries are despatched from factory at minimum 90% state of charge. Full capacity is achieved after a minimum ten numbers of charge - discharge cycle at full depth or 3 months of continuous float operation.

CAPACITY RETENTION

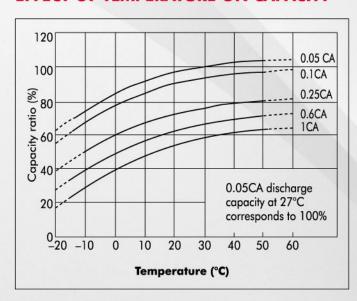


NXT SERVICE LIFE

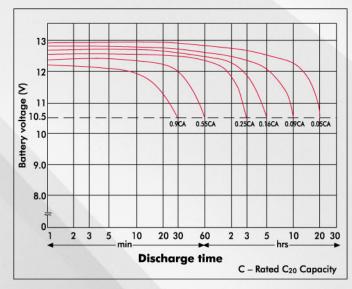




EFFECT OF TEMPERATURE ON CAPACITY



NXT DISCHARGE CHARACTERISTICS



NOTES ON OPERATIONS:

Charging Characteristics:

a) Normal Recharge:

Batteries to be recharged in cc-cv model only

Mode of operation	Voltage setting per 12V unit for ambient temperature 20 - 30 °C	Current setting			
Float	13.7V +/- 0.1V	Maximum: 0.3 CA			
Cyclic	14.7V +/- 0.1V	Minimum: 0.1 CA			

Temperature Compensation: (Reference 25°C)

Float: -18mV/°C/12V unit Cyclic: -30mV/°C/12V unit

b) Fast Recharge option:

During operation, if the battery bank is subjected to regular (daily) deep discharge in excess of 50% (cumulative basis), the fast recharge option may be exercised.

Fast recharge, following pattern to be followed:-

Step 1: 0.3C -14.5VStep 2: 0.1C - 14.5V -14.5VStep 3: 0.05C Step 4: 0.02C - 14.5V

Total duration for the four steps shall be 5.0 hours for a recharge after a 70% DOD. However, this mode of recharge will require an equalization once a month at the recommended float voltage for a period of 12 hours uninterrupted.

Caution on Ripple: The maximum limits of the A.C. content of the D.C. shall be 5A A.C. (rms) per 100 Ah C20 capacity during float charge. The A.C. current induced battery temperature rise should be below 3°C. At all times the average D.C. float current must be kept positive. Heat Dissipation: A VRLA battery under normal float condition shall dissipate heat into the atmosphere. For the overall heat load calculation, taking into account a worst case operation, the rate of heat dissipation may be taken as 0.45 Watts/100 Ah C20 capacity/Cell.

Hydrogen Evolution: Hydrogen gas evolved by a lead acid battery may be estimated from the following formula:

Hydrogen gas evolved per hour = $0.45 \times 10^{-3} \times n \times i \times C \text{ m}^3$ at N.T.P. Where, n = number of 2V cells

i = 0.2 A/100 Ah for a VRLA cell

C = C20 capacity of Cell

To design for the ventilation (air flow) requirement so that the hydrogen percentage in the air is always below 4% (lower explosive Limit), the air flow rate may be estimated as:

 $Q = d \times s \times 0.45 \times 10^{-3} \times n \times l \times C \text{ m}^3 / hr$ Where, d = dilution ratio (100 - 4) / 4 = 24

s = factor of safety, eg.5

For a VRLA, the above may be simplified as:

 $Q = 0.0108 \times n \times C$

Paralleling of Battery Strings: (a) Paralleling of a maximum of three strings is allowed provided they are all of the same make and Ah capacity and of same age. (b) Adequate care shall be taken in ensuring that all inter-unit connecting cables have equal length and cross-section. All cables to the system, from each of the strings, shall also be of same length and cross-section. (c) Total charging current, in the case of parallel strings, to be taken care of so that each of the strings get the recommended level of Amperes - minimum 10% and maximum 30% of the rated C20 capacity of each of the 12V blocks.

For inter-block connection flexible copper cable with suitable lugs are recommended. Cable cross section may be estimated at 2.8Amps/mm2 at the maximum anticipated discharge load.

Even though the Exide Powersafe batteries are designed to perform anywhere between (-) 20 to (+) 50°C, for optimum battery life avoid prolonged operation in ambient in excess of 35°C.

Above 27°C, for every 8°C rise of weighted average operating temperature, battery life is reduced by 50%.

Test discharge on installation and commissioning, if necessary, should be conducted only after 48 hours of uninterrupted float charge with load disconnected.

Ensure that batteries are put to recharge immediately after any discharge, Under no circumstance the gap between the end of discharge and initiation of recharge should be more than 24 hours.

Standard Maintenance Recommendations: (a) Visual check every 3 months to note any physical abnormality like bulge, crack or leakage etc. (b) Measure float voltage of individual units once in 3 months and record thedata. (c) Test discharge the battery bank at least once in 12 months to check battery health. (d) Keep the battery top clean with the help of a dry cotton cloth periodically. Inspect the inter-unit connection points for any sulfation etc. The inter-unit connection are to be checked for tightness once a year. (e) If battery bank is placed on steel racks / cabinets ensure an insulation between the battery base and the steel tray. This could be a coat of durable (acid-resistant) paint or any other insulating medium. Steel racks should preferably be well grounded.

Statutory Notice:

All batteries contain lead, which is harmful for human beings and environment. As per statutory requirements, the used battery must be returned to the authorized dealer, manufacturer or at the designated collection centres.



Please address your queries & comments to :

Head Office Exide House', 59E Chowringhee Road, Kolkata - 700 020, Phone (033) 2283 2120/33/ 36/50/51/71/ 2238/39, Fax (033) 2283 2632/37

Corporate Marketing Office 6A Hatibagan Road, Entally, Kolkata - 700 014, Phone (033) 2286 6158/6159, Kolkata Fax (033) 2286 6186, E-mail: indlcare@exide.co.in

Regional Offices

TExide House', 3E/1 Link Road, Jhandewalan Extension, New Delhi - 110 055, Phone (011) 2362 7095/96/98, Fax (011) 2333 5703

Industrial Marketing Division, Economist House, 2nd Floor, Western Wing, S-15, Thiru Vi-Ka Industrial Estate, Guindy, Chennai - 600 032, Phone (044) 2250 0726, 1326, 1216, Fax (044) 2250 1216 Chennai

'RAHEJAS', 5th Floor, 8C Main Avenue, V P Road, Santacruz (West), Mumbai - 400 054, Phone (022) 2646 5283/84, Fax (022) 2646 5042 Mumbai

6A Hatibagan Road, Entally, Kolkata - 700 014, Phone (033) 2284 3137/3168/3169, Kolkata

Fax (033) 2289 7455 **Branch Offices**

Phone (0671) 268 6151 Cuttack Guwahati Phone (0361) 234 2500/1119, Fax (0361) 234 5097 (PP) Phone (0657) 229 3022/0785, Fax (0657) 229 0894 (PP) Jamshedpur

Phone (0612) 257 0415, 645 8102/8103, Patna Fax (0612) 252 9902 (PP)

Siliguri Phone (0353) 254 0321 Chandigarh Phone (0172) 500 0014, Fax (0172) 265 4395 Dehradun Phone (0135) 324 7766 Ghaziabad Phone (0120) 411 7952, 416 4419 Phone (0141) 229 3799/04, Fax (0141) 229 2877 Jaipur Jalandhar

Phone (0181) 223 7870, 653 4983, Fax (0181) 245 9571

Phone (0522) 404 1896/1899, Fax (0522) 221 8089 Lucknow Varanasi Phone (0542) 250 1680, Fax (0542) 250 1296 Phone (080) 4128 3793/3493/3477, Bangalore

Fax (080) 2357 8672 Coimbatore Phone (0422) 222 1846, Fax (0422) 222 0858 Hyderabad Phone (040) 6516 3958, Fax (040) 4019 6054

Phone (0484) 414 9351, Fax (0484) 253 0797 Kochi Ahmedabad Phone (079) 685 9661/6697/6698, Fax (079) 685 6698

Phone (0731) 255 6290/91, Fax (0731) 249 3395 Indore Phone (022) 2646 5283/84, Fax (022) 2646 5042 Mumbai Phone (0712) 5615 8823/83, 259 4722, Fax (0712) 259 4722 Nagpur

Phone (020) 401 1083/84/85/86, Fax (020) 612 6426 Pune Telefax (0265) 235 4240 Vadodara