

**UNION HDP(HIGH DISCHARGE PERFORMANCE)  
TYPE TUBULAR LOW MAINTENANCE LEAD ACID(LMLA) BATTERIES**

**UNION HDP LMLA (STATIONARY TUBULAR LEAD ACID) batteries** are designed with specialty materials that minimise a host of maintenance and operational problems generally associated with stationary batteries.

**The low antimony selenium alloy** used results in reduced gassing, thereby resulting in low maintenance characteristics (less water-top-up) and **minimum loss of capacity on standby**

**The high impact strength transparent SAN (Styrene Acrylo Nitrile) polymer containers** enables the cells to be self-supporting, and, at the same time allowing easy inspection of the battery plates and elements inside

**The ingredients in the grids and low impurities in active materials** are so chosen that the cells give a long float life

**The rubber bushings** are designed to accommodate the positive plate growth and also to survive more than the decade long float life

**The lead alloy poles** are designed sturdy to hold the heavy active plates and to take care of the current requirement

**The microporous extruded Poly Ethylene Separator** offers very low resistance and takes care of the duty cycle current throughout the designed float and cyclic life

**The low internal resistance** of the cell augments good charge acceptance ability

**The COMPACT design of the cells** permits use of minimum floor space. Thus the above features makes **UNION CELLS, a reliable power supply with long service life**

HDP cells are type tested as per last amended BIS Specification - **IS:1651:2013**

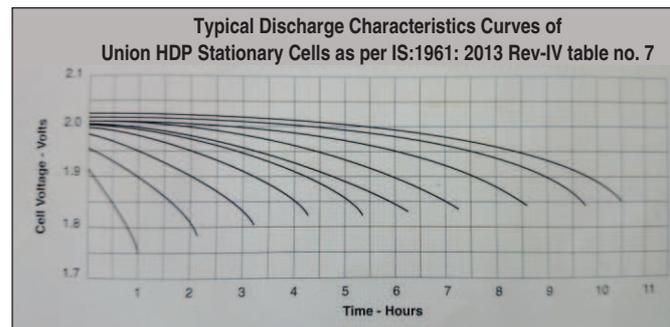
- Their discharge performance is identical with PLANTE type cells, which is governed by **IS:1652**, as the current at different discharge ratings and end of discharge voltages mentioned are same as **IS:1651**

- Whereas PLANTE TYPE Lead acid cells/batteries are costlier due to higher pre-formation energy needs coupled with higher lead content and twice or thrice separator replacement in a life time, HDP cells are cheaper and sturdier than PLANTE cells

- PLANTE cells are being replaced in many places by HDP type cells due to low cost and ease of operation considerations

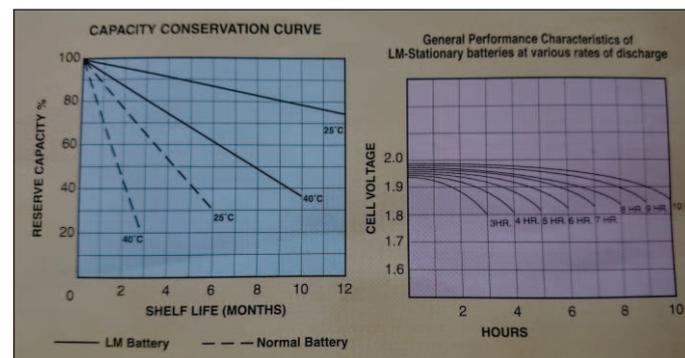
Thus, ideally, these LMLA batteries are suited for the following applications

- Small and large UPS systems
- Power back-up source for Telecommunication and telephone exchanges
- Emergency lighting and Switch tripping
- Railway signalling



1. Capacities at various rates of discharge as per IS:1961: 2013 Rev-IV table no. 7

Hours	10	9	8	7	6	5	4	3	2	1
Capacity %	100	98.8	97.1	95.1	93.0	90.0	86.2	81.1	73.8	61.1
End Volts, V	1.85	1.84	1.84	1.83	1.83	1.82	1.81	1.80	1.78	1.75



**TECHNICAL SPECIFICATIONS (As per IS specifications) (HDP)**

Model name as per IS Specification	UBPL MODEL	C <sub>10</sub> Cap. Discharge to 1.85V	Cell Dimension,mm (H1-height up to lid top) (H2-Overall max. height)			Weight, Kgs		Elect. Volume app. litres
			L	W	H1/H2	Dry	Filled	
IS:1651:2013	Model	Ah	L	W	H1/H2	Dry	Filled	litres
T 65S HDP	2DS40	65	103	206	345/450	8.6	13.6	4.05
T 80S HDP	2DS50	80	103	206	345/450	8.6	13.6	4.05
T 100S HDP	3DS40	100	103	206	345/450	10.7	15.1	3.60
T 150S HDP	4DS40	150	103	206	345/450	12.5	16.5	3.40
T 175S HDP	5DS40	175	124	206	345/450	15.0	19.8	4.10
T 200S HDP	4DS63	200	124	206	460/580	18.4	25.3	6.40
T 250S HDP	5DS63	250	145	206	460/580	20.8	30.1	7.70
T 300S HDP	6DS63	300	166	206	460/580	24.2	35.2	9.60
T 350S HDP	7DS63	350	166	206	460/580	28.1	36.6	7.80
T 450S HDP	6DS80	450	191	210	636/730	31.1	43.0	11.0
T 500S HDP	7DS80	500	191	210	636/730	41.0	57.5	13.8
T 550S HDP	8DS80	550	191	210	636/730	43.5	59.5	13.0
T 650S HDP	9DS80	650	191	210	636/730	47.1	62.5	12.0
T 750S HDP	10DS80	750	203	210	636/730	53.0	87.0	17.8
T 850S HDP	12DS80	850	275	210	636/730	71.5	95.5	20.5
T 1000S HDP	11DS100	1000	275	210	762/880	80.0	108.0	23.5
T 1100S HDP	12DS100	1200	275	210	762/880	82.0	110.0	25.8
T 1400S HDP	15DS100	1400	397	212	762/880	108.0	152.0	36.5
T 1800S HDP	20DS100	1800	487	212	762/880	130.0	185.0	45.5
T 2000S HDP	22DS100	2000	487	212	762/880	142.0	193.2	43.0
T 2200S HDP	24DS100	2200	576	212	762/880	163.0	228.0	54.5
T 2400S HDP	26DS100	2300	576	212	762/880	168.0	240.0	53.5
T 2500S HDP	28DS100	2500	576	212	762/880	181.0	243.0	52.0

**IMPORTANT INFORMATION :**

1. All Accessories like stands, insulators, electrolyte and maintenance tools will be suitably designed and supplied if required.
2. You could furnish the Duty cycle for cells and we size it for you to choose most appropriate AH capacity.
3. Installation, Erection, Commissioning & Testing of cells are provided at site if desired.
4. Apt Battery room size and ventilation requirements would be provided if you furnish the available dimension (volume) at site.

**NOTE :**

1. The cells could be supplied in wet charged or dry charged condition
2. Filling electrolyte specific gravity (for cells supplied with formed positive plates and cured dry negative plates):  $1.190 \pm 0.005$  corrected to 27 °C
3. Commissioning charge (for cells supplied with formed positive plates and cured dry negative plates): Charge the battery with a current of 10% of C<sub>10</sub> Ah for 12 to 16 hours. Top up and adjust sp.gr to  $1.200 \pm 0.005$  corrected to 27 °C at the end.
4. Recharging current: By constant current in two stages – Starting with a charging current of 10% of C<sub>10</sub> Ah and after reaching the gassing voltage of 2.4V per cell, reducing the current to 5% of C<sub>10</sub> Ah and continue charging till the cell voltage reaches  $2.65 \pm 0.02$  V/cell
5. Recommended float voltage:  $2.18 \pm 0.02$  V/ cell
6. Operating specific gravity of fully charged cells:  $1.205 \pm 0.005$  corrected to 27 °C
7. All dimensions are subject to usual production tolerances
8. Weight tolerance : Specified weight  $\pm 5\%$
9. We reserve the right to make technical modifications without prior notification.

We reserve the right to change, modify, cancel the technical specifications without prior notice