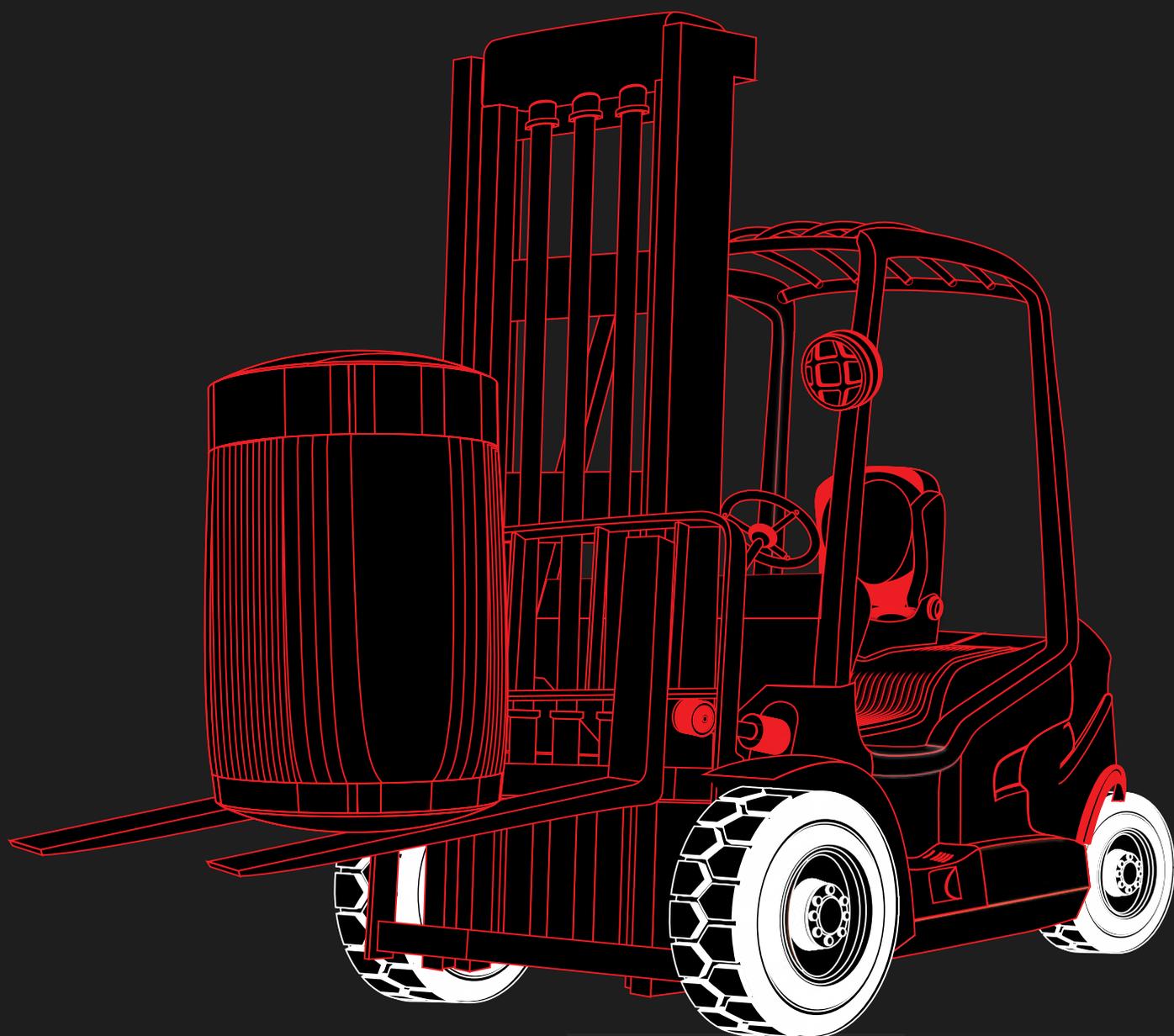
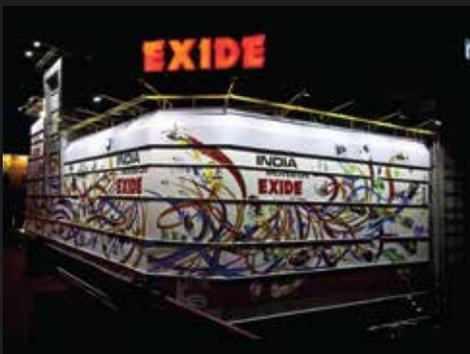


**MOTIVE
POWER
BATTERIES**



INDUSTRIAL
SOLUTION
POWER

Enabling **Reliability**



- + - Headquartered in **Kolkata**, India
- + - The **No 1 Storage Power Company** in South & South East Asia.
- + - Established in **1947**
- + - Products : **Lead Acid Storage Batteries** : 2.5Ah to 20,000 Ah
Hybrid Solar UPS & Home UPS
DC Power Solution
Solar Products & Solutions
- + - **9 Manufacturing units** in India
- + - **1 R&D Center** in India
- + - **5 Wholly owned Subsidiaries** in India
- + - **3 Overseas Subsidiaries** in UK, Singapore & Sri Lanka
- + - Group turnover of **USD 1.3 Billion**
- + - **An Integrated Manufacturing Unit** for Solar Systems at Kolkata, India with
ISO 9001 : 2008,
ISO 14001 : 2004 &
OHSAS 18001 : 2007 accreditation
- + - With **proven references** against Exports made

MOTIVE POWER CELLS

FLOODED TUBULAR



TECHNOLOGY

Exide Industries Ltd. India (EIL), Motive Power cells comes in a huge range of the Normal and the Enhanced version. The design has been optimized to maximize the utilization of the positive and negative electrodes. Usage of Advanced components for the manufacturing of electrodes gives higher discharge efficiency.

The usage of highly porous and resilient Non-Woven Gauntlets and high precision filling system along with temperature controlled 2 shot recirculation formation of the cells has enabled a marked improvement in discharge characteristics and cycle life of the cells. EIL range is at the highest technology level and has a very high efficiency. This improvement integrates the European harmonization of the DIN and BS ranges. This range meets the dimensions of standards DIN/EN 60254 and IEC 254-2



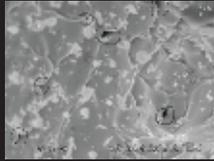
CELL CONSTRUCTION

EIL cells use the robust tubular vented technology (PzS and PzB). The positive electrodes are high pressure cast tubular plates (PzS and PzB) and advanced components used in their manufacture provide increased efficiency. The negative plates are flat pasted plates. The cell box and lid are made from high impact, temperature resistant polypropylene and are heat-seal welded to prevent electrolyte leakage.

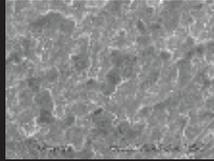


POSITIVE PLATE

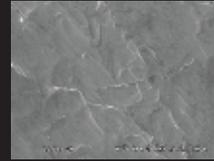
The backbone of the plate. The positive spines are cast at incredibly high pressure with a special antimony alloy of 5%.



Gravity Cast



Low Pressure



High Pressure



NEGATIVE PLATE

Flat Grid design - Improved grid design for superior adherence of active material.



TERMINAL AND TERMINAL SEAL

EIL motive Power comes in EIL Gel Motive Power comes in Bolted version.



GAUNTLET

Imported Non-Woven gauntlet with high volume porosity , low electrical resistance and high resilience enhances the discharge performance of the cells.



TECHNOLOGICAL ADVANTAGE

Use of Imported technology Bolt-On Terminals with Brass inserts would provide better electrical performance. Replacement of any accessories associated with the battery i.e Connector, Take off etc, is easier and can be done in less amount of time.

Bolt-on technology prevents wear and tear of the terminals which was unavoidable in weld-on terminals.

Bolt-On Pillars is used with Imported Technology Grommets which is designed to arrest acid seepage and prevent terminal corrosion. The Grommets are also designed to nullify the effect of plate growth.

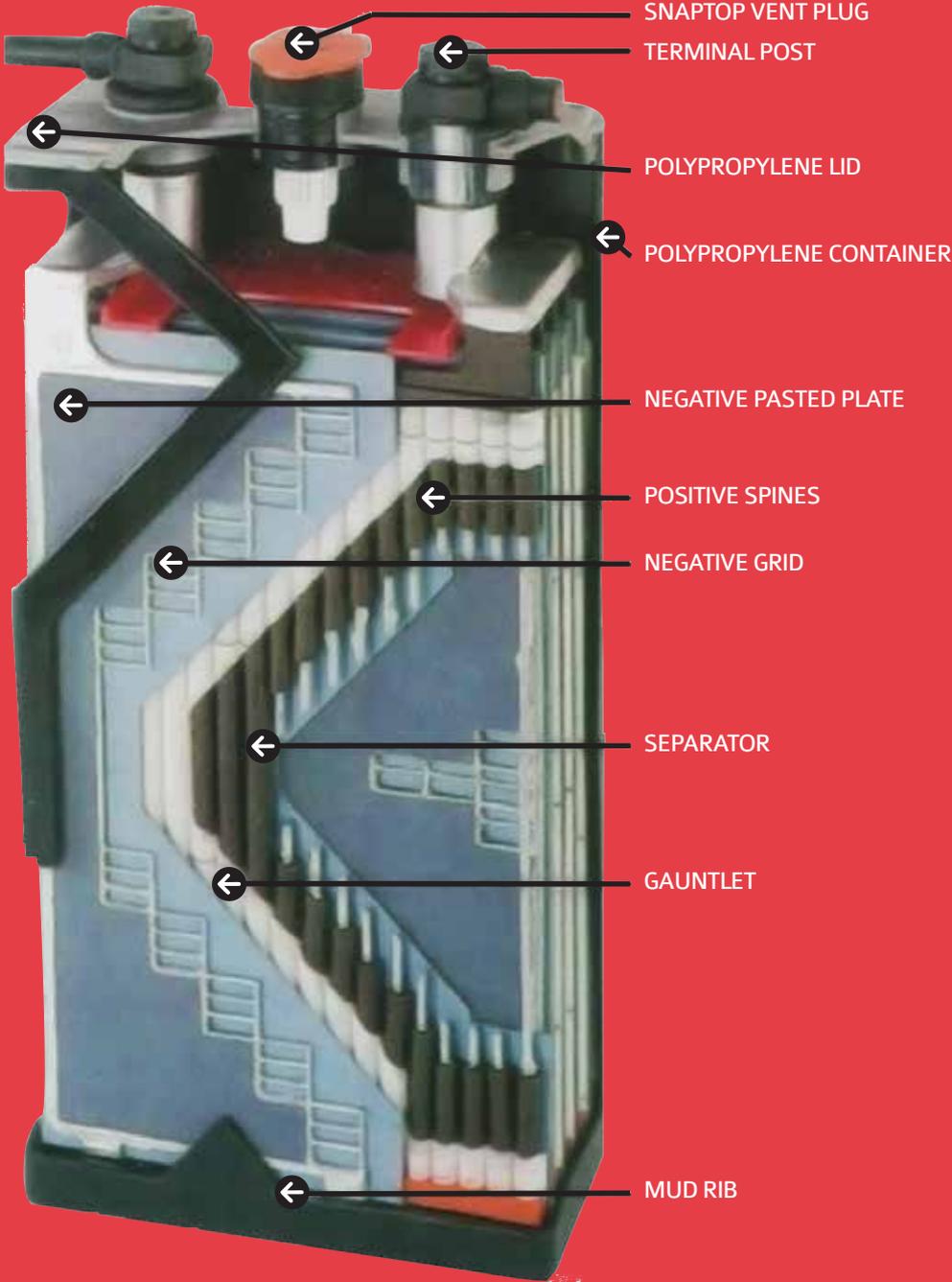
CEIL MOTIVE POWER CELLS



GEL



MOTIVE POWER CELLS



DIN Flooded Traction Range

Cell type	Ah @C5 at 30° C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 60 Ah, Overall Height 362 mm, Height upto Lid Top 332 mm						
2 IPzS 120	EXWAF5	120	47	6.2	1.4	8.0
3 IPzS 180	EXWAF7	180	65	9.1	2.2	11.9
4 IPzS 240	EXWAF9	240	83	11.6	3.0	15.4
5 IPzS 300	EXWAF11	300	101	14.5	3.6	19.1
6 IPzS 360	EXWAF13	360	119	16.9	4.4	22.6
7 IPzS 420	EXWAF15	420	137	19.6	5.1	26.1
8 IPzS 480	EXWAF17	480	155	22.2	5.8	29.6
9 IPzS 540	EXWAF19	540	173	24.8	6.6	33.0
10 IPzS 600	EXWAF21	600	191	27.5	7.3	36.8

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 80 Ah, Overall Height 430 mm, Height upto Lid Top 400 mm						
2 IPzS 160	EXWBF5	160	47	8.1	1.7	10.3
3 IPzS 240	EXWBF7	240	65	11.1	2.7	14.5
4 IPzS 320	EXWBF9	320	83	14.4	3.6	18.9
5 IPzS 400	EXWBF11	400	101	17.3	4.4	23.0
6 IPzS 480	EXWBF13	480	119	20.7	5.4	27.5
7 IPzS 560	EXWBF15	560	137	24.0	6.2	31.9
8 IPzS 640	EXWBF17	640	155	27.2	7.1	36.3
9 IPzS 720	EXWBF19	720	173	30.5	8.0	40.7
10 IPzS 800	EXWBF21	800	191	33.8	8.8	45.1

Cell type	Ah @C5 at 30° C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 90 Ah, Overall Height 490mm, Height upto Lid Top 460mm						
2 IPzS 180	EXWCF5	180	47	9.3	2.0	11.9
3 IPzS 270	EXWCF7	270	65	12.8	3.1	16.8
4 IPzS 360	EXWCF9	360	83	16.4	4.2	21.7
5 IPzS 450	EXWCF11	450	101	20.2	5.1	26.7
6 IPzS 540	EXWCF13	540	119	23.8	6.2	31.7
7 IPzS 630	EXWCF15	630	137	27.6	7.2	36.8
8 IPzS 720	EXWCF17	720	155	31.4	8.2	41.9
9 IPzS 810	EXWCF19	810	173	35.2	9.3	47.1
10 IPzS 900	EXWCF21	900	191	39.1	10.2	52.1

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 105 Ah, Overall Height 540mm, Height upto Lid Top 510mm						
2 IPzS 210	EHXWCF5	210	47	10.0	2.2	12.8
3 IPzS 315	EHXWCF7	315	65	14.5	3.5	18.9
4 IPzS 420	EHXWCF9	420	83	19.0	4.6	24.9
5 IPzS 525	EHXWCF11	525	101	23.3	5.7	30.6
6 IPzS 630	EHXWCF13	630	119	27.2	6.9	36.0
7 IPzS 735	EHXWCF15	735	137	32.0	8.0	42.2
8 IPzS 840	EHXWCF17	840	155	36.4	9.1	48.1
9 IPzS 945	EHXWCF19	945	173	40.8	10.3	54.0
10 IPzS 1050	EHXWCF21	1050	191	45.3	11.4	59.9

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 115 Ah, Overall Height 565mm, Height upto Lid Top 535mm						
2 IPzS 230	ELXWEF5	230	47	10.9	2.3	13.9
3 IPzS 345	ELXWEF7	345	65	15.3	3.7	20.0
4 IPzS 460	ELXWEF9	460	83	19.8	4.9	25.9
5 IPzS 575	ELXWEF11	575	101	25.0	6.0	32.6
6 IPzS 690	ELXWEF13	690	119	29.5	7.3	38.1
7 IPzS 805	ELXWEF15	805	137	34.1	8.4	42.9
8 IPzS 920	ELXWEF17	920	155	37.3	9.6	48.1
9 IPzS 1035	ELXWEF19	1035	173	42.9	10.9	55.5
10 IPzS 1150	ELXWEF21	1150	191	47.6	12.0	61.2

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 125 Ah, Overall Height 601mm, Height upto Lid Top 571mm						
2 IPzS 250	EXWEF5	250	47	11.7	2.5	14.8
3 IPzS 375	EXWEF7	375	65	16.4	3.9	21.4
4 IPzS 500	EXWEF9	500	83	21.1	5.2	27.7
5 IPzS 625	EXWEF11	625	101	26.2	6.4	34.4
6 IPzS 750	EXWEF13	750	119	31.2	7.8	41.1
7 IPzS 875	EXWEF15	875	137	35.8	9.0	47.2
8 IPzS 1000	EXWEF17	1000	155	40.8	10.3	53.9
9 IPzS 1125	EXWEF19	1125	173	45.8	11.6	60.6
10 IPzS 1250	EXWEF21	1250	191	50.9	12.8	67.2

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 140 Ah, Overall Height 715mm, Height upto Lid Top 685mm						
2 IPzS 280	ELXWFF5	280	47	13.1	3.0	16.9
3 IPzS 420	ELXWFF7	420	65	19.2	4.7	25.2
4 IPzS 560	ELXWFF9	560	83	24.9	6.3	32.8
5 IPzS 700	ELXWFF11	700	101	31.9	7.7	40.8
6 IPzS 840	ELXWFF13	840	119	37.2	9.3	47.8
7 IPzS 980	ELXWFF15	980	137	42.9	10.8	56.7
8 IPzS 1120	ELXWFF17	1120	155	48.8	12.3	64.5
9 IPzS 1260	ELXWFF19	1260	173	54.7	14.0	72.5
10 IPzS 1400	ELXWFF21	1400	191	60.6	15.4	80.2

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 155 Ah, Overall Height 742mm, Height upto Lid Top 712mm						
2 IPzS 310	EXWFF5	310	47	14.4	3.2	18.4
3 IPzS 465	EXWFF7	465	65	20.2	4.9	26.5
4 IPzS 620	EXWFF9	620	83	25.7	6.5	34.0
5 IPzS 775	EXWFF11	775	101	31.2	8.1	41.5
6 IPzS 930	EXWFF13	930	119	38.6	9.8	51.1
7 IPzS 1085	EXWFF15	1085	137	44.4	11.3	58.8
8 IPzS 1240	EXWFF17	1240	155	50.2	12.9	66.7
9 IPzS 1395	EXWFF19	1395	173	55.9	14.6	74.5
10 IPzS 1550	EXWFF21	1550	191	62.7	16.1	83.2

BS Flooded Traction Range

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 32 Ah, Overall Height 298 mm, Height upto Lid Top 268 mm						
2 IPzB 64	EXXVF5	64	45	4.4	1.0	5.6
3 IPzB 96	EXXVF7	96	61	5.9	1.3	7.5
4 IPzB 128	EXXVF9	128	77	8.1	1.7	10.3
5 IPzB 160	EXXVF11	160	93	10.0	2.1	12.6
6 IPzB 192	EXXVF13	192	109	11.8	2.5	15.0
7 IPzB 224	EXXVF15	224	125	13.7	2.8	17.4
8 IPzB 256	EXXVF17	256	141	15.7	3.2	19.8
9 IPzB 288	EXXVF19	288	157	17.4	3.6	22.0
10 IPzB 320	EXXVF21	320	173	19.3	4.0	24.4
11 IPzB 352	EXXVF23	352	189	22.9	4.4	28.4
12 IPzB 384	EXXVF25	384	205	24.8	4.7	30.8
13 IPzB 416	EXXVF27	416	221	26.7	5.1	33.2

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 42 Ah, Overall Height 354 mm, Height upto Lid Top 324 mm						
2 IPzB 84	EXIMF5	84	45	4.6	1.3	6.3
3 IPzB 126	EXIMF7	126	61	6.5	1.8	8.8
4 IPzB 168	EXIMF9	168	77	8.7	2.3	11.6
5 IPzB 210	EXIMF11	210	93	10.4	2.8	13.9
6 IPzB 252	EXIMF13	252	109	12.2	3.3	16.4
7 IPzB 294	EXIMF15	294	125	14.0	3.8	18.8
8 IPzB 336	EXIMF17	336	141	15.8	4.3	21.3
9 IPzB 378	EXIMF19	378	157	17.6	4.8	23.8
10 IPzB 420	EXIMF21	420	173	19.4	5.3	26.2
11 IPzB 462	EXIMF23	462	189	23.0	5.8	30.4
12 IPzB 504	EXIMF25	504	205	24.8	6.3	32.9
13 IPzB 546	EXIMF27	546	221	26.6	6.8	35.3

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 55 Ah, Overall Height 430 mm, Height upto Lid Top 400 mm						
2 IPzB 110	EXILF5	110	45	6.2	1.6	8.2
3 IPzB 165	EXILF7	165	61	8.5	2.2	11.2
4 IPzB 220	EXILF9	220	77	10.9	2.8	14.5
5 IPzB 275	EXILF11	275	93	13.3	3.4	17.6
6 IPzB 330	EXILF13	330	109	15.7	4.0	20.8
7 IPzB 385	EXILF15	385	125	18.1	4.6	24.0
8 IPzB 440	EXILF17	440	141	21.2	5.3	27.9
9 IPzB 495	EXILF19	495	157	22.8	5.9	30.3
10 IPzB 550	EXILF21	550	173	25.1	6.5	33.4
11 IPzB 605	EXILF23	605	189	29.3	7.1	38.3
12 IPzB 660	EXILF25	660	205	31.7	7.7	41.5
13 IPzB 715	EXILF27	715	221	34.1	8.3	44.7

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 65 Ah, Overall Height 480 mm, Height upto Lid Top 450 mm						
2 IPzB 130	EXTLF5	130	45	6.9	1.8	9.1
3 IPzB 195	EXTLF7	195	61	9.5	2.4	12.6
4 IPzB 260	EXTLF9	260	77	12.2	3.1	16.2
5 IPzB 325	EXTLF11	325	93	14.9	3.7	19.7
6 IPzB 390	EXTLF13	390	109	17.6	4.5	23.3
7 IPzB 455	EXTLF15	455	125	20.4	5.1	26.9
8 IPzB 520	EXTLF17	520	141	23.1	5.9	30.6
9 IPzB 585	EXTLF19	585	157	25.8	6.5	34.1
10 IPzB 650	EXTLF21	650	173	28.4	7.2	37.6
11 IPzB 715	EXTLF23	715	189	33.0	7.9	43.0
12 IPzB 780	EXTLF25	780	205	35.7	8.6	46.6
13 IPzB 845	EXTLF27	845	221	38.5	9.2	50.2

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 75 Ah, Overall Height 539 mm, Height upto Lid Top 509 mm						
2 IPzB 150	EXTHF5	150	45	8.0	2.0	10.4
3 IPzB 225	EXTHF7	225	61	10.7	2.7	14.1
4 IPzB 300	EXTHF9	300	77	13.8	3.5	18.3
5 IPzB 375	EXTHF11	375	93	16.9	4.2	22.2
6 IPzB 450	EXTHF13	450	109	19.8	5.0	25.4
7 IPzB 525	EXTHF15	525	125	23.0	5.7	30.2
8 IPzB 600	EXTHF17	600	141	26.5	6.5	34.1
9 IPzB 675	EXTHF19	675	157	28.7	7.2	37.9
10 IPzB 750	EXTHF21	750	173	32.5	8.0	40.9
11 IPzB 825	EXTHF23	825	189	37.2	8.8	47.4
12 IPzB 900	EXTHF25	900	205	38.6	9.5	49.6
13 IPzB 975	EXTHF27	975	221	43.2	10.3	56.3

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 86 Ah, Overall Height 597 mm, Height upto Lid Top 567 mm						
2 IPzB 172	EXTOF5	172	45	8.1	2.2	10.9
3 IPzB 258	EXTOF7	258	61	11.9	3.0	15.7
4 IPzB 344	EXTOF9	344	77	15.4	3.9	20.4
5 IPzB 430	EXTOF11	430	93	17.5	4.7	23.5
6 IPzB 516	EXTOF13	516	109	21.5	5.6	28.6
7 IPzB 602	EXTOF15	602	125	26.3	6.4	34.4
8 IPzB 688	EXTOF17	688	141	30.6	7.3	39.9
9 IPzB 774	EXTOF19	774	157	35.9	8.1	46.3
10 IPzB 860	EXTOF21	860	173	40.0	9.0	51.5
11 IPzB 946	EXTOF23	946	189	46.7	9.9	59.3
12 IPzB 1032	EXTOF25	1032	205	53.7	10.7	67.3
13 IPzB 1118	EXTOF27	1118	221	58.8	11.5	73.5

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 100 Ah, Overall Height 634 mm, Height upto Lid Top 604 mm						
2 IPzB 200	ELXTEF5	200	45	9.3	2.4	12.3
3 IPzB 300	ELXTEF7	300	61	13.2	3.3	17.3
4 IPzB 400	ELXTEF9	400	77	17.0	4.2	22.1
5 IPzB 500	ELXTEF11	500	93	20.9	5.0	27.4
6 IPzB 600	ELXTEF13	600	109	24.9	6.0	32.6
7 IPzB 700	ELXTEF15	700	125	28.4	6.9	37.2
8 IPzB 800	ELXTEF17	800	141	32.4	7.9	42.5
9 IPzB 900	ELXTEF19	900	157	36.3	8.8	47.5
10 IPzB 1000	ELXTEF21	1000	173	40.1	9.7	52.5
11 IPzB 1100	ELXTEF23	1100	189	45.9	10.6	59.4
12 IPzB 1200	ELXTEF25	1200	205	49.9	11.5	64.5
13 IPzB 1300	ELXTEF27	1300	221	53.8	12.4	69.6

Cell type	Ah @C5 at 30 Deg C	Length (mm)	Dry weight (Kg.)	Acid Volume (Ltr.)	Filled Weight (Kg.)	
Positive Plate Capacity 108 Ah, Overall Height 708 mm, Height upto Lid Top 678 mm						
2 IPzB 216	EXTEF5	216	45	9.9	2.6	13.3
3 IPzB 324	EXTEF7	324	61	14.4	3.6	19.1
4 IPzB 432	EXTEF9	432	77	18.9	4.7	24.9
5 IPzB 540	EXTEF11	540	93	23.3	5.6	30.5
6 IPzB 648	EXTEF13	648	109	27.7	6.7	35.7
7 IPzB 756	EXTEF15	756	125	31.9	7.6	41.6
8 IPzB 864	EXTEF17	864	141	36.3	8.8	47.1
9 IPzB 972	EXTEF19	972	157	40.7	9.7	53.1
10 IPzB 1080	EXTEF21	1080	173	45.0	10.7	58.7
11 IPzB 1188	EXTEF23	1188	189	51.3	11.8	66.3
12 IPzB 1296	EXTEF25	1296	205	55.7	12.8	72.0
13 IPzB 1404	EXTEF27	1404	221	60.2	13.7	77.7

MOTIVE POWER CELLS

OPERATION and MAINTENANCE (Flooded Tubular)



GENERAL

It is recommended that the battery is not discharged beyond 80% of nominal capacity. When the battery has been discharged it should be recharged as soon as possible on the appropriate charger. Open the battery compartment to get additional ventilation during a charge. Leave the vent plugs firmly in position.

- ➔ A battery is ready for operation after its properly charged.
- ➔ Batteries must be put on recharge immediately after discharge.
- ➔ Recharging to be done with **Recommended Traction Taper Chargers** only.
- ➔ Carry out **Equalizing Charge** once every 2 weeks if the battery is worked heavily (80% DOD). If the battery is discharged up to 50% everyday, equalizing charge can be carried out once in 4 weeks.
- ➔ Keep battery top clean and dry. Check earth leakage and if the leakage voltage is more than 7-8 % of the battery voltage, thoroughly wash the battery and dry it.
- ➔ Water topping-up with battery grade water has to be done on a regular basis.



METHODS OF RECHARGING

Taper Charging or Constant Current followed by Taper Charger : it is important that the output of the charger is matched to the caoacity of the battery.

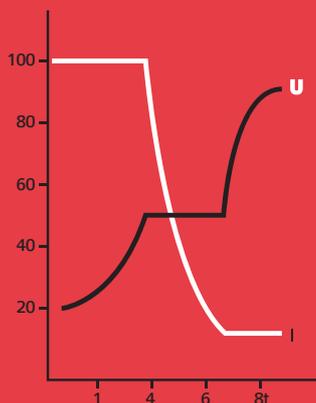
➔ Typical IUI Recharge:

Step 1: @ 15% of rated C% till 2.35 vpc

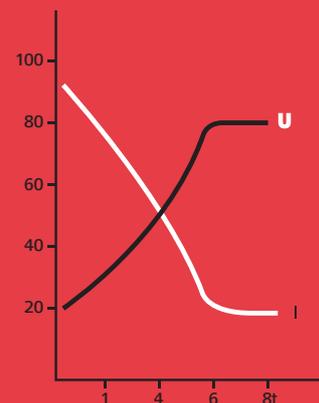
Step 2: Constant Volt @ 2.35 vpc till the current tapers to 7-8% of C5

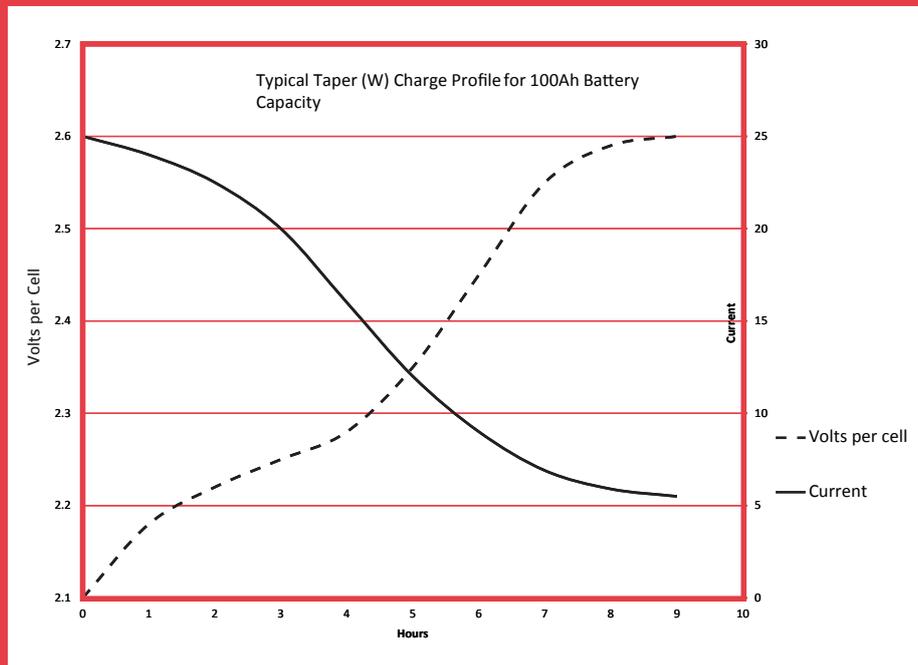
Step 3: @ 7-8% of C5 till the voltage reaches 2.65 volt per cell

IUI charge characteristic



W charge characteristic





A TYPICAL SINGLE STEP 8 HOUR TAPER CHARGE (W CHARGE)



EQUALIZING CHARGE

Traction cells over a period of use develop unequal state of charge (unequal specific gravities) and need to be equalized from time to time. If this state of inequality is allowed to continue, the battery loses effective capacity, the weakest cell capacity being the deciding factor for battery capacity.

➡ Procedure :

Step 1: Connect the battery to a charger and commence charging at 3% of battery capacity in Amperes. The current has to be kept constant throughout the charging process.

Step 2: Top Up all cells up to requisite level with DM water.

Step 3: Take hourly readings of specific gravity, voltage and temperature.

Step 4: Equalizing charges to be continued till.

- Voltage of all cells on charge, reach a maximum level and remain constant for 3 consecutive hourly readings.
- Specific gravity of all cells reaches a maximum level and remain constant for 3 consecutive hourly readings.



CHARGING REGIME WITH IUI

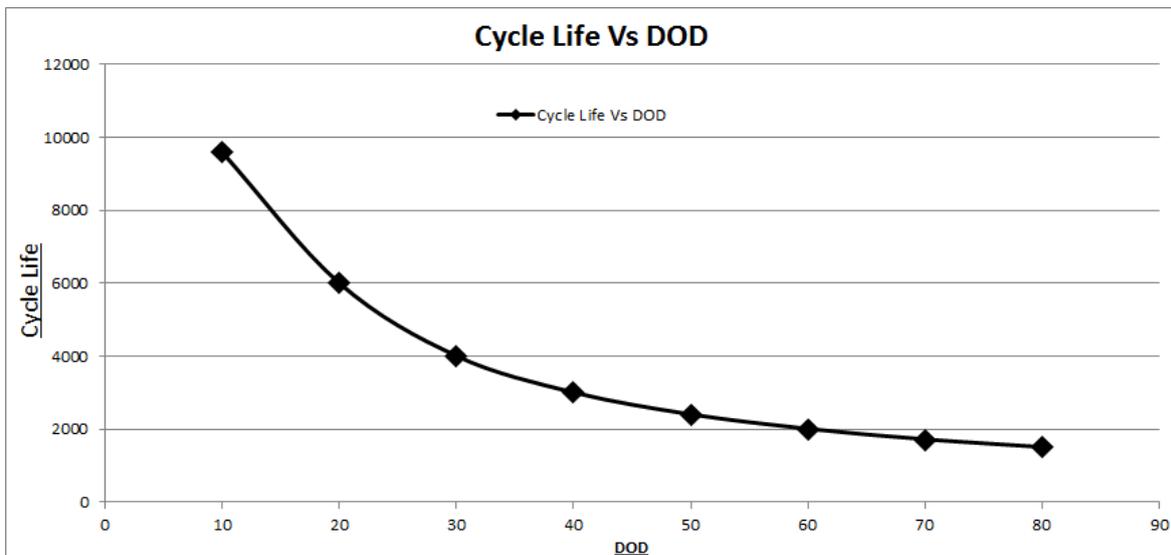
- **t1:** Initial current: $I_1 = 15.20 \text{ A}$ per 100 Ah C 5 h
- **t2:** Charging at 2.4 V per cell, current reduction to I_2
- **t3:** Gas charging with $I_2 = 1.2 \text{ A}$ to 1.6 A per 100 Ah C 5 h
- t1, t2 and t3 are time intervals of charging steps.
- (t1 + t2) is set of maximum 10 h for safety reasons
- t3 should be equal to (t1 + t2), but at least 1 h and maximum 4h.

Warning :

If higher Charging currents are used (during t3), the cells will dry out.

Cycle Life

Using the above EIL charging regime and maintaining operating guidelines recommended by EIL, following cycle life can be expected



MOTIVE POWER CELLS

ACCESSORIES



BATTERY WATERING MONITORS

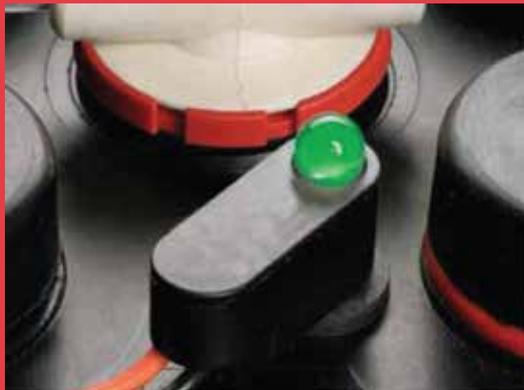
LET YOUR BATTERIES TELL YOU WHEN THEY NEED WATER

The biggest problem in battery maintenance is knowing when to fill batteries with water. Without indication, operators must devise watering schedules or carry out weekly inspections to maintain the batteries. Time is often wasted when inspecting and watering batteries that do not require filling, while batteries left under watered can suffer costly permanent damage.

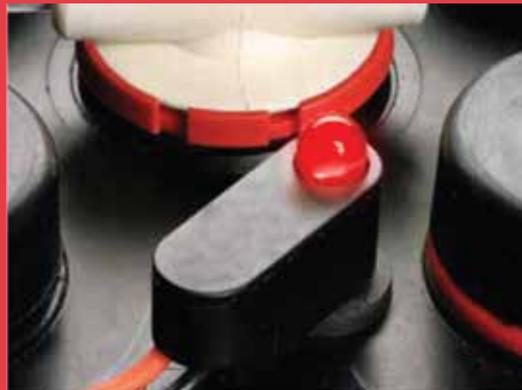
CEIL watering monitors dramatically improve battery maintenance by intelligently alerting personnel when a battery needs water — and when it does not. These monitors allow watering on a labor-saving “as-needed” basis instead of a hit-or-miss schedule. Watering too frequently can cause electrolyte boil overs, which reduce battery capacity by three percent for each occurrence.

Lack of water in batteries creates a low electrolyte level, eventually causing permanent damage to the cells. **CEIL** watering monitoring will help ensure your electrolyte levels are never too low or too high.

As an essential tool for good maintenance, watering monitors are a must for all industrial batteries.



Green LED indicates electrolyte level is good



Red LED indicates battery needs water

CEIL battery watering monitors' compact size allows fit onto crowded battery tops and their very bright LED allows for maximum visibility.



SAVES MONEY

- ▶ Allows you to water **only those batteries** that need water.
 - ▶ **Prolongs battery life** — never lets a battery dry out.
 - ▶ Monitors add **minimal cost** to batteries.
-



EASY TO USE

- ▶ **Bright LED** is easy to see.
 - ▶ Probe comes in a number of standard sizes and is easy to trim for a **custom fit**.
-



SAVES TIME

- ▶ Eliminates labor time wasted checking battery levels.
 - ▶ **Advanced technology** eliminates false indication, maximizes watering intervals.
-

BATTERY WATERING MONITORS

PROLONG BATTERY LIFE WITH THE BATTERY WATERING MONITOR



OPERATION

CEIL watering monitors are easy to see, easy to use and easy to install. All three models offer a flexible design with pre-cut factory lengths and can be easily trimmed for a custom fit. They also enhance the safety of your operation by reducing employees' exposure to acid. Save money and improve productivity with any of our battery watering monitors.

- ▶ **LED blinks green when electrolyte is OK**
- ▶ **LED goes out when water is needed**

Our original watering monitor revolutionized the checking of electrolyte levels in industrial batteries. It saves time, reducing labor cost, and delivers a rapid ROI. It is a low-cost solution for electrolyte monitoring.



SPECIFICATION

- ▶ **Operating Voltage:** 4.0V Nominal (2 Lead Acid Cells)
- ▶ **Voltage Range:** 3.0 – 5.5V
- ▶ **Nominal Current:** 60mA





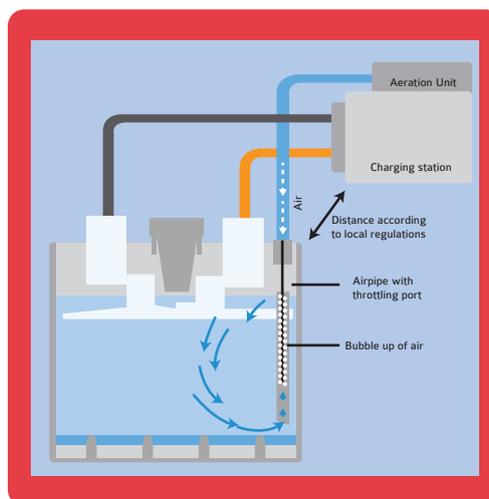
ELECTROLYTE CIRCULATION SYSTEM

Electrolyte Circulation ensures that the electrolyte is gently mixed by an air stream. It works on airlift principle which comprises a system of tubes built into the cell. A electric diaphragm pump conducts a weak current of air into the cell through a small tube reaching down to the bottom of the battery, setting up circulation inside the cell container. The pumped output is produced by a fixed –displacement electric diaphragm pump and delivered to the tubes in the respective cells via hoses. This prevents electrolyte and temperature stratification and optimizes charging.



ADVANTAGES

- ✓ **Saving of up to 30%** in charging time.
- ✓ Saving of up to **20 % electricity consumption** per charge.
- ✓ **Reduction of electrolyte temperature** by up to 10 degree per charge.
- ✓ Avoidance of electrolyte and **temperature stratification**.
- ✓ Up to 75% **less water consumption**.
- ✓ Water top-up levels are up to **4 times as long**.
- ✓ Even **more economical charging equipment** possible(reduced current rating)
- ✓ **Increased life** time of batteries





QUICK
NOTES

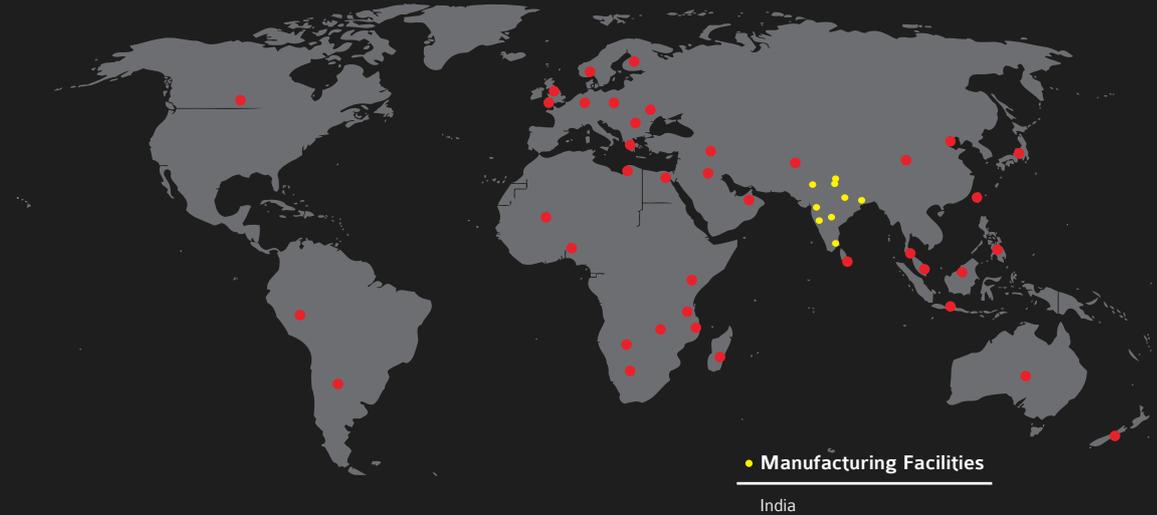
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QUICK
NOTES

A series of horizontal dashed lines for writing notes.

- Norway
- UK
- Canada
- Croatia
- Poland
- Greece
- Malta
- Israel
- Jordan
- Egypt
- Bahrain
- Qatar
- Peru
- Argentina
- Mali
- Nigeria
- Botswana
- South Africa
- Zambia
- Tanzania
- Mozambique
- Kenya
- Mauritius
- UAE
- Sri Lanka
- Malaysia
- New Zealand
- Australia
- Singapore
- Indonesia
- Brunei
- Philippines
- Thailand
- Cambodia
- Vietnam
- Hong Kong
- Taiwan
- Bangladesh
- China
- Japan
- Korea
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- Oman
- Kuwait
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- Finland
- Germany
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* Wherever we own the brand



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