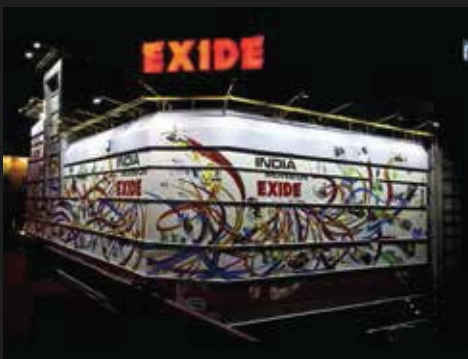


**MOTIVE
POWER
BATTERIES**



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



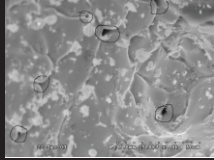
CELL CONSTRUCTION

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.

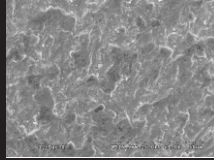


POSITIVE PLATE

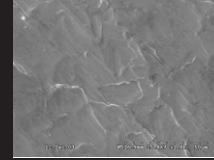
The backbone of the plate. The positive spines are cast at incredibly high pressure with a special antimony alloy of 5%.



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.

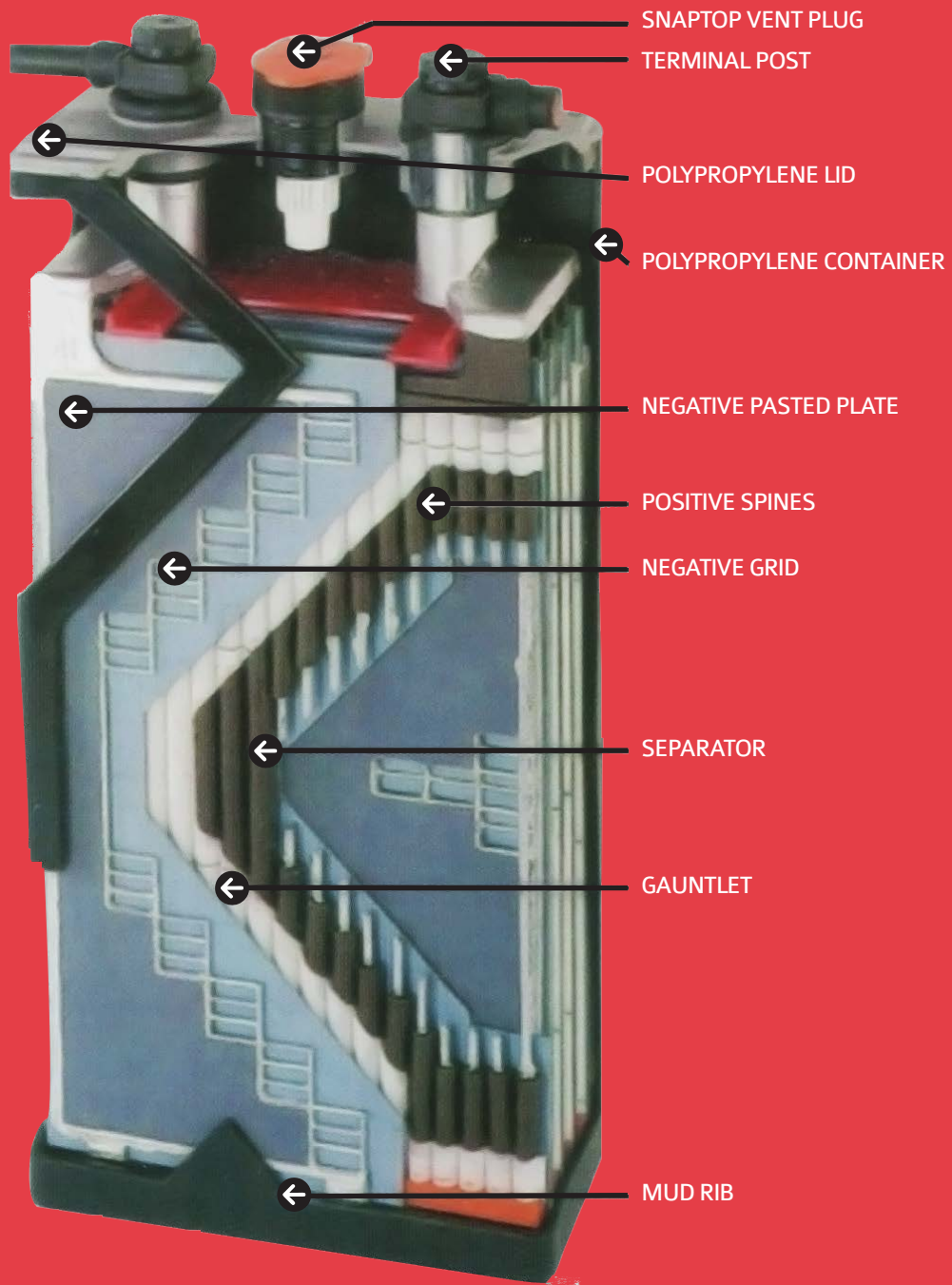
CEIL MOTIVE POWER CELLS



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 Tracton 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.

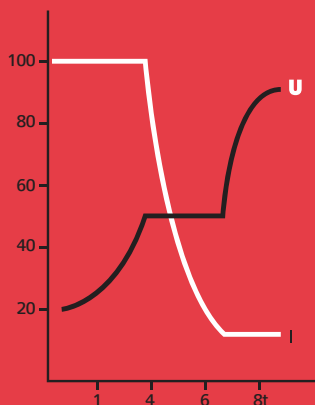
➔ Typical IUI Recharge:

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

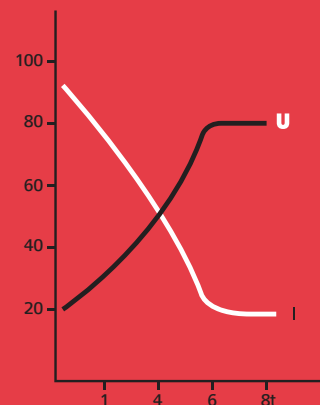
Step 2: Constant Volt @ 2.35 vpc till the current tapers to 7-8% of C5

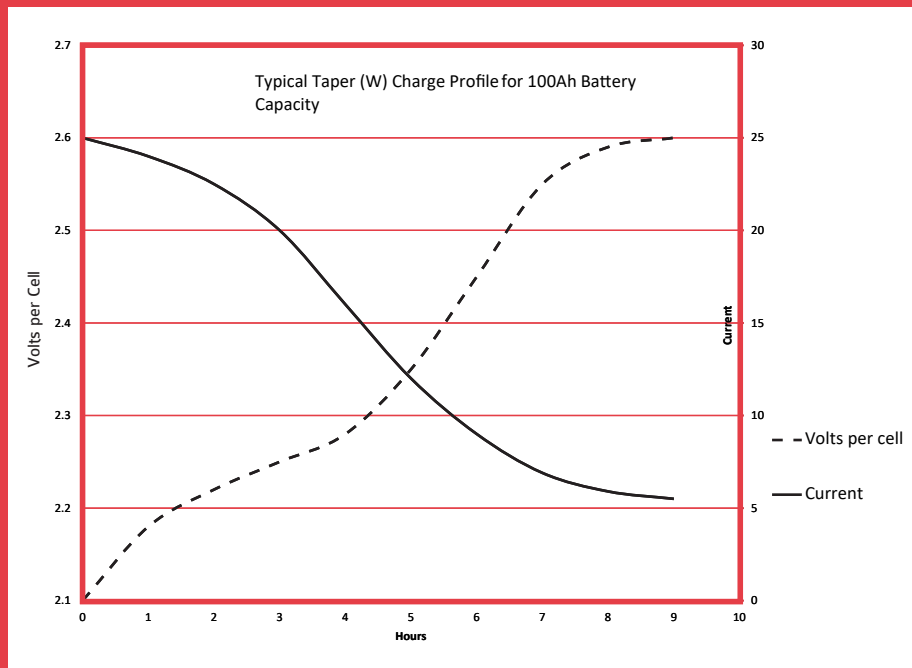
Step 3: @ 7-8% of C5 till the voltage reaches 2.65 volt per cell

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

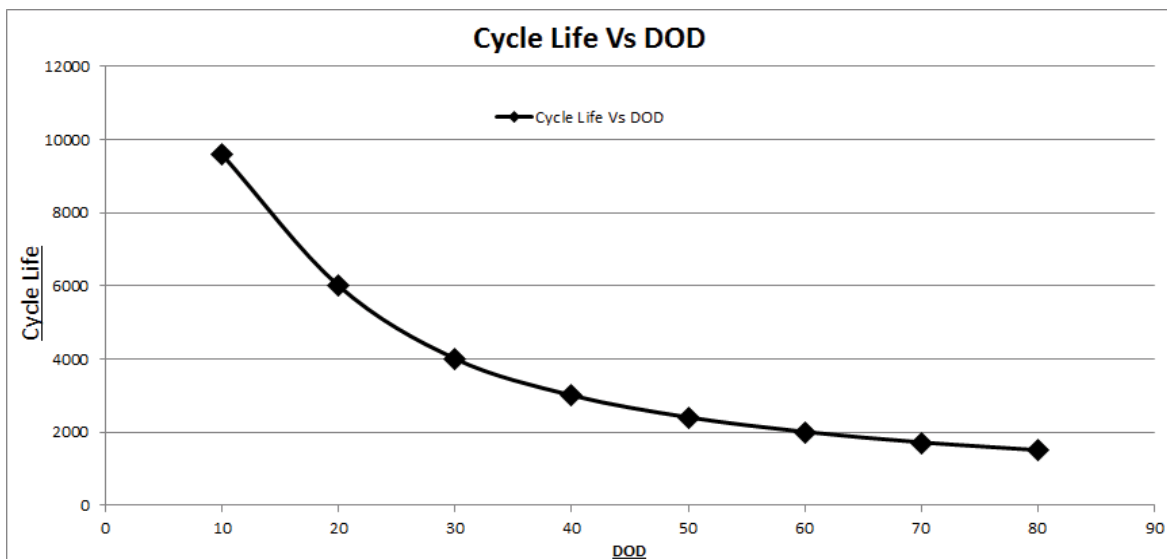
- **t1:** Initial current: $I_1 = 15.20 \text{ A}$ per 100 Ah C 5 h
- **t2:** Charging at 2.4 V per cell, current reduction to I_2
- **t3:** Gas charging with $I_2 = 1.2 \text{ A}$ to 1.6 A per 100 Ah C 5 h
- t1, t2 and t3 are time intervals of charging steps.
- (t1 + t2) is set of maximum 10 h for safety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

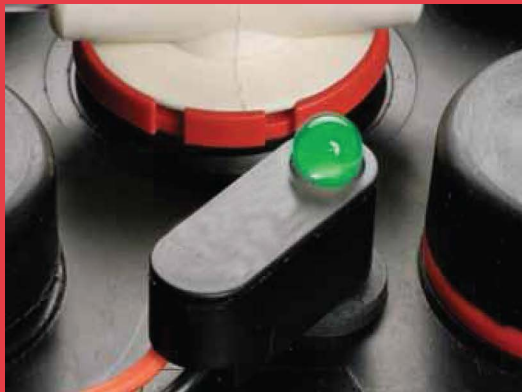
LET YOUR BATTERIES TELL YOU WHEN THEY NEED WATER

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.

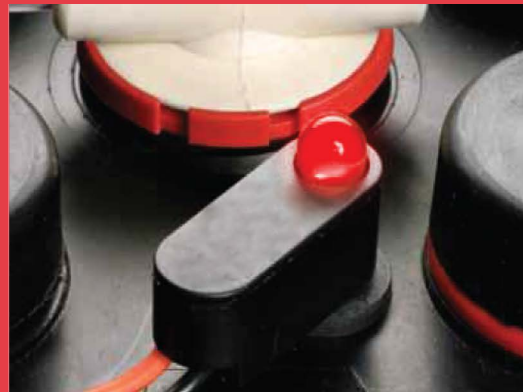
CEIL watering monitors dramatically improve battery maintenance by intelligently alerting personnel when a battery needs water — and when it does not. These monitors allow watering on a labor-saving “as-needed” basis instead of a hit-or-miss schedule. Watering too frequently can cause electrolyte boil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





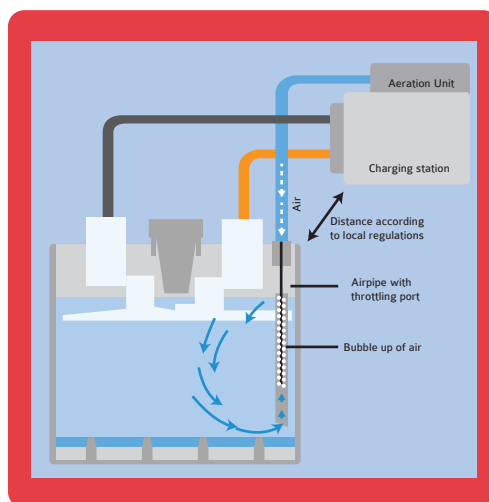
ELECTROLYTE CIRCULATION SYSTEM

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.



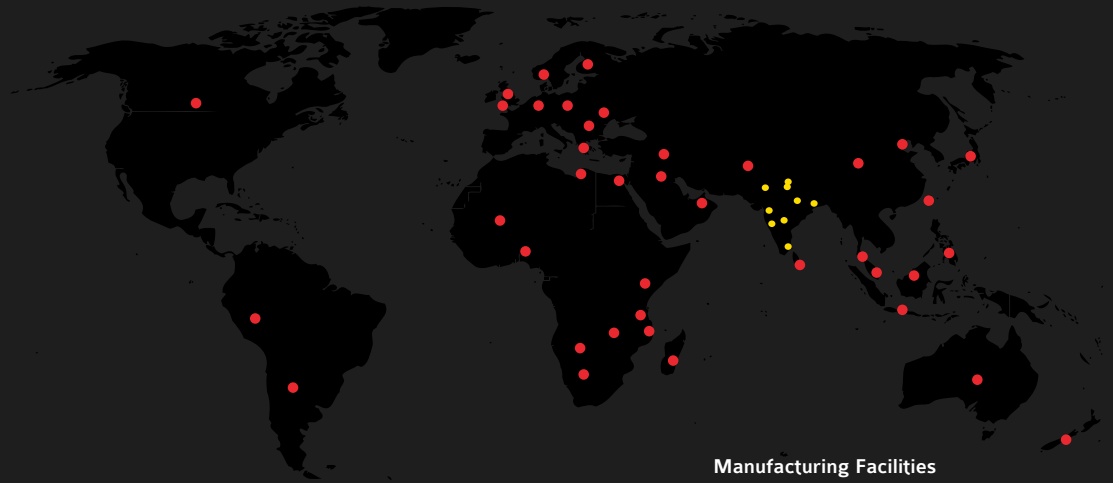
ADVANTAGES

- ✓ **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



● Global Presence

- | | |
|--------------|-------------|
| Norway | Sri Lanka |
| UK | Malaysia |
| Canada | New Zealand |
| Croatia | Australia |
| Poland | Singapore |
| Greece | Indonesia |
| Malta | Brunei |
| Israel | Philippines |
| Jordan | Thailand |
| Egypt | Cambodia |
| Bahrain | Vietnam |
| Qatar | Hong Kong |
| Peru | Taiwan |
| Argentina | Bangladesh |
| Mali | China |
| Nigeria | Japan |
| Botswana | Korea |
| South Africa | Afghanistan |
| Zambia | Oman |
| Tanzania | Kuwait |
| Mozambique | Armenia |
| Kenya | Finland |
| Mauritius | Germany |
| UAE | Scotland |
| Spain | Uganda |
| Lebanon | Zimbabwe |
| Yemen | |



Manufacturing Facilities

India

EXIDE*



DYNEX

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CHLORIDE*



* Wherever we own the brand



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