

**MOTIFORZ**



**MOTIFORZ  
TRACTION**

**TRUSTED BATTERY SYSTEMS**

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The Chloride and Exide brands enabled by Ceil are available in certain countries only. Please check for details.

**MOTIVE POWER SOLUTIONS**

Torr Tubular Technology  
Batteries | Chargers | Service

**ENABLING RELIABILITY**



## ABOUT CEIL

The competitive world today is borderless. Major industries of the world require speed and agility to ensure business sustainability; downtime is simply no excuse. These same driving forces have led to the inception of CEIL – Trusted Battery Systems.

CEIL is designed to drive principal economic sectors globally. This is achieved by developing products in tandem with innovative technology and creating contemporary methods of utilising energy in mobility.

CEIL is no commonplace battery. It is designed to be Tougher & Hassle-Free. These brand values are born out of the same values of CBSEA and EXIDE Industries Ltd (EIL); CEIL's proud parents, trusted for their advancement in battery technology. CEIL's parentage reflects strength and technological advancement which ensure that CEIL provides a reliable flow of constant energy.

CEIL thrives on being the unrivalled choice as a battery systems brand. CEIL will enable your business to be more reliable. This hassle-free reliability will enhance your operational efficiency. By hassle-free, we mean focusing on making your processes free of downtime. You will experience this in our products, process and people.

Your needs remain at the center of everything we do at CEIL, and the dynamics of our customers' trends will lead us to focus on innovative delivery. Within each CEIL Traction battery system, Uninterrupted Standby Power System and Automotive Battery, CEIL is designed to deliver a complete system allowing you to stay reliable and efficient. This is the Trusted value of CEIL.



## HIGH REACH

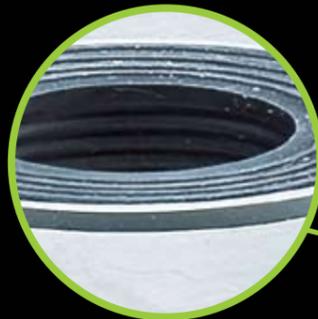
CEIL Batteries in use in DB Schenker's Tuas Facility, Singapore. The preferred choice for 3PLs across the region.



# MOTIFORZ | TRACTION THE INSIDE STORY

### Neoprene Grommet

The special grooved design on the inner portion as well as the outer arrests the electrolyte seepage and flow eliminating voltage leakage which is critical to the performance to the battery. This also reduces corrosion on the connector of the battery.

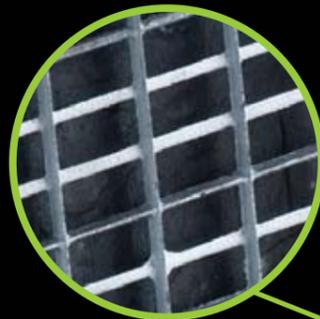


### UPGRADE Level Indicating Vent Plug



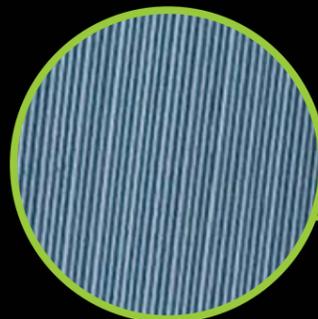
### Negative Grid

The patented low antimony grid which ensures support for the negative active material while maintaining a low electrical resistance. To obtain consistency of the highest levels, WIRTZ (USA) technology is applied.



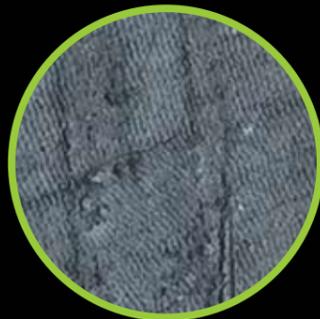
### Separator

Microporous polyethylene separators from the global sources, which has excellent oxidation and puncture resistance. Its low ionic resistance ensures higher battery power throughout its life.



### Negative Active Material

The recipe of the negative active material has been specially derived to enable a perfect complement to the positive plate. The pasting process using the state of the art MAC (USA) machine ensures uniform density and texture throughout the surface area. This greatly enhances the longevity of the battery.



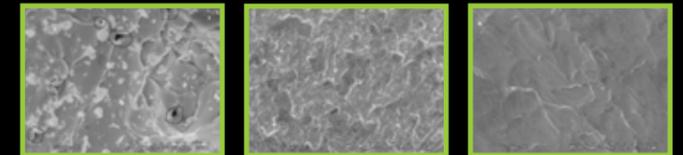
## ADVANCED. BY DESIGN.

### Positive Spine

The backbone of the plate. The positive spines are cast at incredibly high 100 bar pressure with a special low antimony lead alloy formula.



### Spine Casting Comparison



GRAVITY CAST (1 Bar)

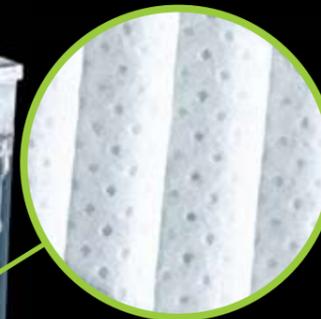
CAST IN LOW PRESSURE (10 Bar)

CAST IN HADI (100 Bar)

This uses the high technology Hadi (Austria) equipment. This gives an excellent combination of a very reliable frame work and low electrical plate resistance.

### Gauntlets & Active Material

The special non woven gauntlets have a unique structure that enable the electrolyte to penetrate more freely while FURTHER reducing the shedding of the active material. This combination of the gauntlets and the specially formulated active material enhances the cycle life of the battery.



### Superior Life Cycle of Non Woven Gauntlets





**MOTIFORZ** | TRACTION

# THE POWER RANGE

Conforming to Standards DIN/EN 60254 and IEC254-2

## CEIL EX RANGE

CEIL EX Range provides higher efficiency in discharge achieved by advanced components used in the construction of the positive plates. The sizing of the positive and the negative plates has been optimized according to the volume available in the cell boxes. The advanced formula of Red Lead and Pure Lead Oxide are used in positive active material. The higher diameter of the gauntlet tubes increases the annular volume resulting in the increased power. The CEIL EX range of batteries are at the highest technology level and have very high efficiency.

All battery ranges are available with options for bolt-on or weld-on intercell connections.

## CEIL NX RANGE

CEIL NX Range of batteries provide a high level of power and reliability for all industrial truck applications, from simple applications with a low capacity loading up to heavy load multisift application, the CEIL NX range of batteries have longer running time and better utilization factor.

## CEIL WX RANGE

CEIL WX Range is designed to reduce maintenance activities and expenses. The top up frequency is reduced by up to 75%. This is without sacrificing any aspect of its performance.

## CEIL ZX RANGE

CEIL ZX Range battery systems (including suitable chargers) are equipped with electrolyte agitation. This has the principle of using air flow within the cell to stir the electrolyte. Electrolyte stratification is greatly reduced and charging efficiency is enhanced by upto 50%.



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# CHARGERS

A PERFECT COMPLEMENT

## CEIL SUPER CHARGER II

A smart charger that assesses each battery's charging requirements through its patented intelligent technology. This charger is unparalleled for its electrical efficiency will also charge a wide range of battery sizes within a specified voltage.

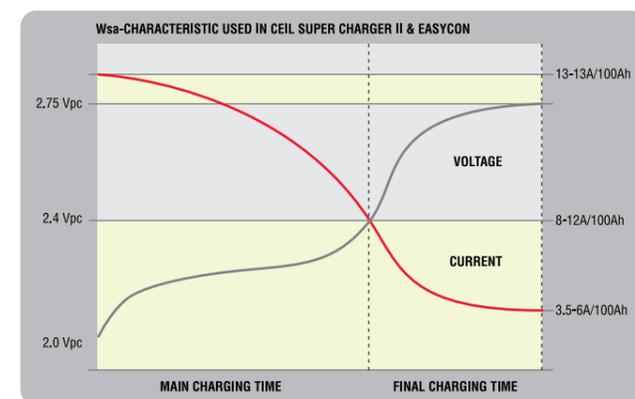
### Key features

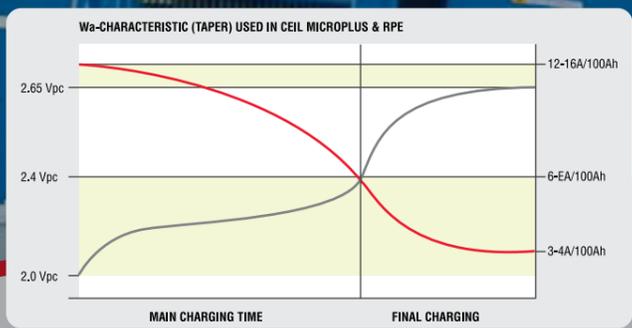
- Automatic AC Voltage Adaptation – No hazard anymore in setting up the individual AC Voltage setting
- Charge Data Monitoring - Evaluate the efficiency of battery charging before or after the charge cycle
- Charging in 5.5 Hours – It can charge the battery in as low as 5.5 hours with the pump module and electrolyte agitation technology with CEIL ZX Range
- Desulphation Charge – Good for the old battery where the sulphation in the plates can be treated efficiently to get a better performance from the battery



## CHARGED PERFORMANCE

CEIL batteries and chargers drive the operations at Sankyu's Jurong Facility, Singapore. It is important that the batteries and chargers are perfectly matched.





## CEIL MICROPLUS

In line with its tradition of microprocessor-controlled chargers and using the latest state of the art technology. MICROPLUS bases the recharge profile on the actual characteristics of each battery being charged and thanks to its self-diagnostic capability provides full information to the operator.

MICROPLUS charges the battery with calculation of the recharge coefficient and incorporates a comprehensive display of status information relating to the battery or charger.

### Key Features

- Wa charging mode in compliance with curve DIN 41774
- Auto prevention of overcharging
- LCD Display with error code
- Double security timer
- Facility to adjust equalizing mode

## CEIL RPE

The range RPE is available as a 230V 50/60 Hz single-phase input model. The unit is suited to the needs of recharging lead traction batteries in small equipment such as sweepers, hand pallet trucks or small vehicles with the best features like:

### Key Features

- Auto start after 8 sec delay
- Proportional gassing
- Microprocessor controlled and multi voltage PC board
- Security timer
- Prevention of overcharging



## Charger Comparison Table

Sr No	Features	CEIL SUPER CHARGER II	CEIL MICROPLUS	CEIL EASYCON	CEIL RPE
1	Multishift Operation	•	•	•	•
2	Charging in 5.5-6.5 hours with pump module	•			
3	50Hz without regulation (Wsa Characteristics)	•		•	
4	50/60Hz with regulation (Wa Characteristics)		•		•
5	Current pulse characteristics	•			•
6	Equalization Characteristics	•	•	•	•
7	Automatic Main voltage adaptation	•			
8	Auto shut down in case of error detection	•		•	
9	Auto battery check	•	•	•	•
10	Desulphation charging	•			
11	LCD Clear text display	•	•		
12	Charging Data logging and analysis	•			
13	Auto start and stop	•	•	•	•

## CEIL EASYCON

The CEIL Easycon is an extremely efficient, rugged, and reliable tapered charger that is easy to install, operate and maintain. This charger comes with the best warranty offered in the industry and excellent automatic controls including: Charge time delay, charge data monitoring, real-time clock, auto start/stop and backup timer protection.

### Key features

- Auto Equalization: Equalize the voltages for all the cells in the battery after charging to the same level in order to have the better performance from the battery
- Automatic Battery Check : Checks and monitors the battery health before it charging commences and displays an error signal so that user gets the indication on the battery health in advance and rectify it
- Charger Temperature Control: Maintains the desired temperature during charging so that there is no additional heat generation in the system



## CEIL AQUATOP AUTOMATIC FILLING SYSTEM

- Considerable reduction of manual labour
- No chance of contamination
- No electrolyte spillage
- Ensures right top up

## CEIL AQUASENSE ELECTROLYTE LEVEL SENSOR

- Convenient way to measure the water level inside the battery
- Red LED alert is on when the desired water level not achieved
- Eliminates the risk of battery damage caused by insufficient electrolyte
- Increases the life-span of batteries

## CEIL WATERSAFE MOBILE TOPPER

- Much faster filling is ensured
- This process is easier than the gravity filling system
- No human error in topping up the battery
- Control valve takes care of the equal water level of the each cell
- Useful for the central filling system for the whole battery bank or maximum number of batteries
- Low power consumption
- Low maintenance

## CEIL SPILLSAFE ACID-SPILL KIT

- Ensures personal safety
- Easy to use safely
- Returns work area to workable condition quickly, decontaminate and clean up in one step
- Reduce hazardous waste - After neutralization, residues of battery acids are environmentally benign and can be flushed into foul water system
- Cope with largest likely spill of battery acids - A heavy duty battery contains about 30 litres of acid. This spill kit is capable of neutralizing and absorbing about 32 litres



## CEIL SMARTCLAMP

A common cause of battery failure-the loosening of the cable from the socket. One of the many value added features of the CEIL batteries, the SMARTCLAMP helps to firmly tie down the cable to the socket.



## CEIL SUPPORT

Every CEIL Motiforz battery and charger has the entire 50-Year technical experience of CEIL behind it. Our large group of well trained sales and service engineers are always standing by to meet all your needs at the shortest notice.

The CEIL SMART team is:

# S

### SPEEDY

Quick response to your needs within hours

# M

### MOTIVATED

Dynamic, dedicated and go getter team is ever ready to serve you with a smile

# A

### ANYTIME SERVICE

Provides service beyond working hours, should you require it

# R

### RELIABLE

Swift detection and correct solution of issues

# T

### TECHNICALLY SOUND

Longest experience in handling motive power batteries

## CEIL

## VALUE ADDITION

CEIL Value Added Service ensures the value for money to our customer by handholding its customers over the product life. CEIL is a one stop solution for all your DC power needs.

- CEIL CARE Maintenance Package:**  
 No headache on battery maintenance. We have different CEIL CARE maintenance packages. Call us for details
- CEIL Battery Handling Systems:**  
 These offer the highest degree of safety and ease of operation for any equipment. Streamline your battery changing operation completely
- CEIL Consultancy:**  
 CEIL has many years' experience in the complete concept of battery charging rooms, from initial design and engineering through to complete installation and project management. Please feel free to call us now!

