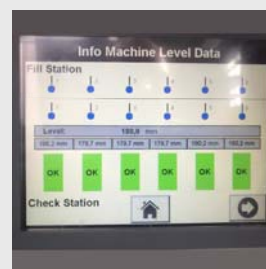
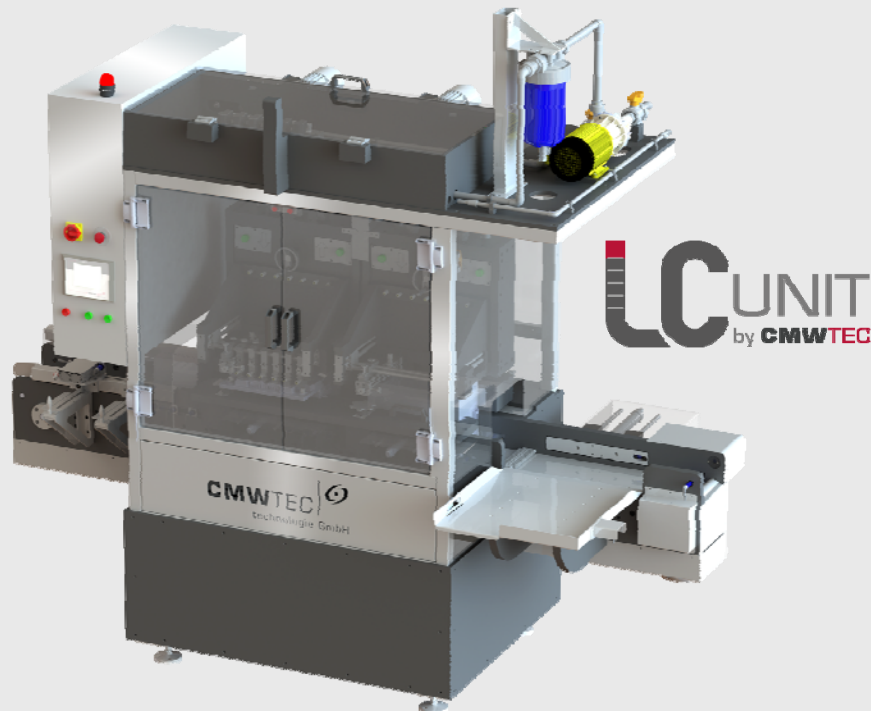


# AUTOMATIC ACID LEVELLING/ LEVEL CHECK MACHINE

Technology  
[made in Germany]

Acid final levelling with level checking of automotive car and truck batteries with intelligent sensor system to detect the correct level height.



## The Advantage:

- Fully automated levelling and independent level check process
- Exact levelling accuracy by tungsten electrode monitoring
- Filling speed control adjustable, with frequency-controlled acid pump
- Level checking verification for quality audits.
- With reject table for failed batteries
- Short change over time
- 100% acid resistance

**Basic machine**

The basic unit has been designed for housing the individual assemblies and contains the pneumatic and electrical machine controls. It houses the levelling and level checking working console which are vertically adjustable. The working console is adjustable for the different battery heights, by motor movement. Acid-resistant material is used for both the base frame and the working console.

**Levelling unit**

The levelling unit houses the individual heads. They can be adjusted according to the distance of the battery cover holes. Tungsten electrodes integrated into the levelling heads, control the levelling process.

**Level check unit**

The level control unit accommodates the individual heads. The heads are precisely lowered into the filling holes of the battery cover by a distance measuring system. The height and the heads can be adjusted according to the distance between the battery covers. Tungsten electrodes integrated in the probes detect the acid level and show the filling level individually per cell on the HMI info screen when in contact with acid. In addition, manual functions can be triggered at the control panel.

**Acid supply unit**

The supply unit consists the elements to connect the machine to the acid supply system of the factory. Optional a distributor for different densities can be installed and pre-programmed.

**Battery positioning unit**

The batteries are positioned exactly underneath the filling unit, by a fixed stopper system.

**Lateral guide unit**

The lateral guide including the battery separation and the exit monitoring device is designed for laterally adjusting the battery below the working station. A clamping mechanism ensures the adjustment to be executed exactly and fast.

**Reject unit**

The machine is equipped with a reject table. Batteries which level is out of the tolerance, will automatically rejected and collect on a separate table, to continue the production process.

**Battery conveyor unit**

A PP chain transports the batteries through the machine and, at the same time, ensures them to be adjusted smoothly and exactly at the filling position.

**Description of function**

The machine is designed for checking under- and over-filling of sulphuric automotive batteries. The individual batteries supplied through the conveyor of the finishing line are positioned exactly. The fill stroke moves down and the levelling heads are lowered into the filling holes of the battery. The first station checks the acid level in the battery. If a battery is under filled it will be top-up the level, if a battery is overfilled it remove the acid out of the battery with diaphragm pumps. As a result, the acid level is accurate in all the individual cells due to an intelligent tungsten electrode system in each head for monitoring. The second station will check the levelling unit by lower the Check heads with a distance measuring system until each electrode get in contact with acid. The result will be displayed on the HMI for verification. An exact level achievement is guaranteed. If a battery failed it will be rejected on a table

**Technical specifications**

Battery type	:	automotive car and truck batteries
Capacity	:	up to 8 batt./min, if batteries not overfilled
Level accuracy	:	+/- 1 mm of the final level
Weight of batteries	:	20 – 70 kg
Dimension of machine	:	L =4000 mm W = 1525 mm H = 2600 mm
Construction	:	Full acid proof Material, Stainless steel 316Ti; Plastic PP and PVC Pieces not acid resistant with special protection
Electric	:	230/400V, 3-Phase, 50/60 Hz, 4 Wire
Control voltage	:	24 DC
Power consumption	:	4,4 kW
Operating pressure	:	6 bar (90 psi)

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