



CONSTRUCTION  
BATTERY  
EQUIPMENT

MX

MIXER AND CONE



*Paste preparation*



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## MIXER AND CONE PASTE 1.200 KG

FULLY AUTOMATIC PASTE MIXER AND RELIABLE ADDITIVES WEIGHING AND ADDITION

The following parts compose it:

Paste tank.

Cylindrical steel tank to contain the paste. The inner part of the tank is turned and thermally stretched. The tank is closed in the upper part with a stainless steel AISI 304 lid, where there are the inspection doors, the tube for cooling air inlet and outlet, the tubes for the inlet of acid and water, and the lead inlet coming from the dosing silo.

The paste mixed and ready to become paste is extracted using the door in the front part of the tank.

Mixing system

The rotating paddles produce a complete mixing action of the various components (lead, acid, water and additives) to obtain a uniform and easily pasting paste. The mixer is equipped with scraping paddles, which perfectly clean the inside of the mixer.

Cooling system.

In the mixing cycle, the temperature produced by the exothermic reaction developed between the H<sub>2</sub>SO<sub>4</sub> and the lead oxide is essential. The temperature is kept at the fixed values using the two cooling systems, so assuring a good quality of paste preparation. By means of a fan, the first cooling system blows the paste surface and cools it down, the second one, by means of circulating water, keeps cool the bottom of the tank. The air comes directly inside the vacuum fan system connected with the air depuration system (scrubber). The vacuum-operated machine prevents dust and steams from exiting in case of opening of inspection doors.

Operation

The necessary quantity of lead oxide for paste preparation is unloaded from the dosing lead silo into the mixer. The paddles turn, then water, acid and additives following the cycle times foreseen are introduced. The sulphuric acid inlet causes an exothermic reaction, which develops heat that rises the temperature of the paste preparation at more than the acceptable values (58%). The cooling system lowers the paste preparation temperature under the maximum values. This aim is reached by maintaining the room under pressure (100 ÷ 110 mm H<sub>2</sub>O). With these depression values, water evaporation takes place at ca. 50 ÷ 55°C. Taking advantage of this physical principle, we block the raising of the paste temperature. The special paddles shape produces a complete mixing action, which lifts the oxide from the bottom of the tub to the top of the mix for a uniform mix. At the end of the mixing, the PLC that controls all process let the door open and the paste comes out from the outlet openings. The mixer is positioned at a certain high from the stairs, if the cycle is completely automatic, and the paste is collected by a rotating cone. It slides on guides, which takes the paste on the pasting hopper. CBE is able to supply the complete automatic plant, namely: lead silo, support frame for mixer, lead-dosing silo, load and unload water and acid automatic system, mixer paste cone and electric control panel.





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Technical data

Dimensions: Length 3300 mm, Height 2500 mm, Width 2000 mm; 380 V, 50Hz (three-phase);  
Installed power: 45 kW; Fan motor power: 1,5 kW; Air pressure: 6 Bar; Extraction air capacity:  
2500 m<sup>3</sup>/h; Water capacity: 0,4 m<sup>3</sup>/h; Cycle time: 30 min; One cycle production: 1200 Kg paste

## PASTE DISTRIBUTION CONE

The paste distribution cone enables to collect the paste coming from the mixer and unload it in the pasting hopper.

Paste cone.

The cone containing the paste is made of thermally flattened steel to eliminate the tensions of the previous works. A fifth wheeler supports the cone enabling a complete turn of the cone by means of a gear motor; this system facilitates the paste ejection at the paste discharge moment in the paste hopper. A blade inside the cone removes the paste from the cone sides during his rotation and lets it fall down in the pasting hopper.

The cone has an automatic opening/closing system, which enables the ejection of the paste at the discharge moment.

Cone support system: A welded steel framework supports the cone. A gear motor fixed on the structure transmits the rotation movement to the cone. The system slides on lines, which guides the cone from the mixer up to the pasting machine.

Technical data

Electricity: 380 V; 50 Hz (three-phases)

Dimensions: Length 1500 mm, Height 1600 mm, Width 1400 mm

Installed power: 6.2 kW

Total cone capacity: 2600 Kg paste