



**BATTERY BREAKING AND SEPARATION
COMPACT VERSION (BB&S COMPACT)**



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FUNCTION

The **STC** Battery Breaking and Separation system in Compact version is designed to treat lead acid batteries and to separate all the main components:

- Electrolyte
- Paste
- Metallic lead (fine grids and posts+poles)
- Heavy Plastic (polyethylene)
- Polypropylene

The compact version is designed for small productions up to 5 t/h of batteries with the scope to reduce the investment costs and minimize the delivery time and the site installation activities.

The plants can be operated up to 24/24 and 330 days per year.

ADVANTAGES

The Compact version of **STC** Battery Breaking & Separation plant has the following main advantages:

- High quality of the separated fractions
- Strong, robust and simple plant very reliable and easy to use with low maintenance requirements
- Top quality “made in Italy” at very competitive cost
- Pre-assembled in our workshop for very easy and fast installation onsite
- Environment-friendly and safe for the operators
- Very compact installation with reduced space requirement
- Civil works limited to a simple basement
- Automatic operation controlled by PLC: only one operator per shift is required
- Construction available either in stainless steel AISI 304 or AISI 316

DESCRIPTION

The exhausted batteries are manually placed onto a Belt Conveyor (automatic feeding system is available as optional) which feeds the Hammer Mill where batteries are finely crushed.

A screw conveyor drags the outlet fragments from the bottom of the mill into a first Rotating Screen where lead paste is separated from the remaining battery scraps.

Two pipes with nozzles for water-jetting are installed inside and outside the drum with the aim to wash the screens and the material inside .

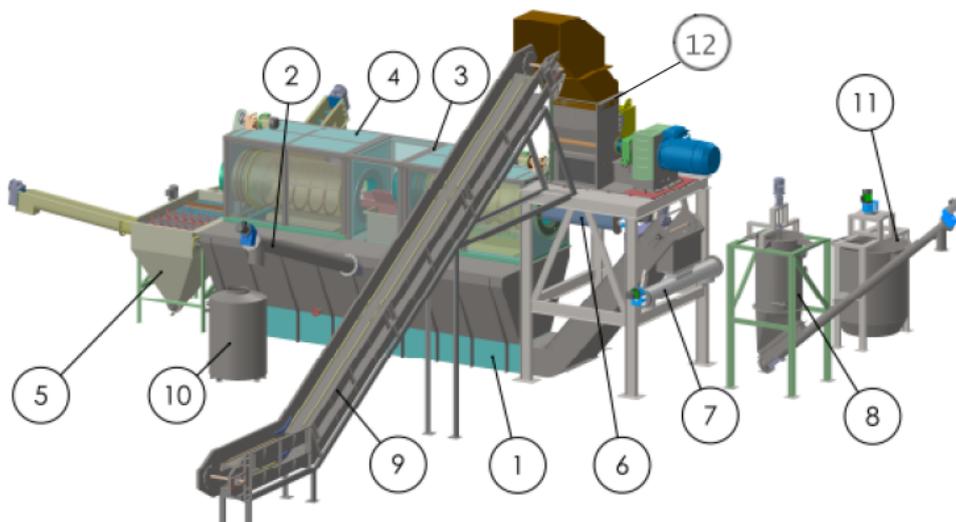
The discharge of the paste suspension occurs into a Mud Elevator placed underneath, while the solid fraction composed of grids and plastics is discharged into the hydrodynamic separator where the metallic lead parts are separated from the plastics (PP and PE) that are conveyed into the second Rotary Screen.

Inside the second Rotating Screen, possible remaining paste residues are finally separated and discharged into the Mud Elevator tank composed of a tank equipped with an extraction redler fixed onto a double chain system where the lead paste is separated from the clarified acid and collected into a bidirectional screw conveyor that may feed a draining big bags system.

As optional a paste filtration unit is available in order to reduce the humidity of the paste.

The plastic fraction separated in the second rotary screen is delivered to a Sink&Float for a gravimetric separation: the floating Polypropylene is extracted from the surface of the sink&float with the help of rotating paddles while the heavy plastics sink and are collected through a second screw conveyor from the bottom of the equipment.

The system is pre-assembled in our workshop in order to speed up and facilitate the installation onsite; the electrical board is equipped with a PLC with operator panel for the control of the process. The system is remotely connectable via internet for easy access to stored data and for any system debugging.



Item	Tag	DWG	Descrizione foglio
1	S-107	-	Mud Elevator
2	S-106	-	Sink&Float
3	S-105	-	First Rotating Screen
4	S-112	-	Second Rotating Screen
5	S-113	-	Sink&Float
6	H-109	-	Screw Conveyor
7	H-131	-	Screw Conveyor
8	S-135	-	Delta Separator
9	H-128	-	Belt Conveyor
10	T-133	-	Collection tank for excess from Mud Elevator
11	T-118	-	Lead Paste Collection tank
12	Z-104	-	Hammer Mill with frame

OPTIONAL AND SYSTEM INTEGRATION

The battery breaking and separation compact system is a standard line but many optional features are available to cope with specific Clients needs or with layout constraints.

The following optional units are available for **STC BB&S Compact version**:

- Automatic batteries feeding system
- Paste filtration with STC membrane Filter Press
- Metallic fraction separation in fine metallic (fine grids) and coarse fraction (large grids, posts and poles)
- Paste desulphurization
- Metallic fraction desulphurization
- Lead smelting and lead refining units
- Polypropylene washing, grinding and extrusion line
- Heavy plastic treatment system
- Electrolyte neutralization and reuse or electrolyte cleaning and concentration unit
- Scrubber for general ventilation for installation in closed building