

DISTRIBUTION

Soto Lab & Co. Ltd. is presenting in Europe the regenerator **Soto-ww1®**, the most technologically advanced electric equipment present today for the regeneration of lead batteries.

THE REGENERATOR

Soto-ww1® is conceived, developed and currently entirely produced in Japan with high quality electronic materials. It is able to triplicate the life of a high percentage of lead-acid and silica gel batteries **in total respect of the environment**, keeping in mind the important economic saving for the final user.

REDUCE, REUSE, RECYCLE

Soto Lab & Co. Ltd. in Tokyo is connected to the Japanese authority “**3R**” to whom the biggest production companies, which respect the environment, are joined to.

To better understand the importance, on a worldwide level, of the commitment of the all for the reduction of the highly polluting materials we can indicate the following relevant statistic data:

The weight of lead-acid batteries sent to disposal centers only in Italy in the year 2007 summed up to 187.624 tons (official figures) that can be estimated to be about 15.000.000 batteries sent to the disposal centers.

The major cause of a short lifetime (in average 2/3 years) for which lead batteries and silica gel batteries are considered to be worn out and therefore to be disposed is the crystallization of the lead sulphate (PbSO₄) on the plates. It is the sulphation, instead, that prevents the cells from absorbing and adequate amount of charge and consequently from maintaining the initial energy.

Subsequently to numerous market surveys carried out in Japan, also using published data from the JAF (Japan Automobile Federation), the company **Soto Lab Co.** stated that about 60% of the accumulators sent to the disposal centers can be regenerated and, therefore, **the pollution caused can be drastically reduced.**

The regenerator **Soto-ww1®** acts throughout high frequency impulses generated by special waves (Soto Waves), controlled by a specific software, **SOTO MIND CONTROL** which disintegrate the sulphation crystals (PbSO₄) and once dissolved in the distilled water bring back the electrolyte to the correct density.

With the elimination of the sulphation, in fact, the lead plates are cleaned and, consequently, the passage of the current (ions) through the positive plate (+) and the negative plate (-) is freed, the recharge of the battery, therefore, can go back to its initial values.

The regeneration, **other than significantly reducing the quantities of accumulators destined to disposal centers and, therefore, concretely safeguarding the planet**, favors a high economic saving as the battery, regaining its rated capacity, is newly available and, therefore, ecologically **recycled.**

REGENERATION WHY?

For many years the disposal of highly toxic wastes has represented and still represents nowadays, without seeking viable and real alternatives for the protection of the environment, a big disrespect towards our planet.

Everyone of us, at any level, should feel the duty and need to deeply commit oneself to bequeath to future generations a world possibly without poisons which are irreversibly jeopardizing its life.

The batteries' materials are considered second in the ranking of the highly toxic wastes because of the inability of the total disposal of their components as in 9% of the cases they remain indestructible.

WHEN TO REGENERATE?

Regardless of the type of battery it is evident that the process of sulphation can not be avoided and is incremental for any type of accumulators.

We are used to periodically carry out controls on every equipment used and provide the necessary services for their maintenance but rarely think to control the real efficiency of a battery "before" it is suddenly not able to supply the energy for its optimal functioning.

Soto-ww1®'s regeneration process, that can triplicate the life of a good quality battery, produces the best results when it is used on accumulators which still guarantee acceptable functioning conditions (between 50% - 60% of their original efficiency).

It is not possible to recover a battery that has been affected by structural damages due to different causes (cells with problems at their elements, with internal short circuit, with swelling of the external wrapping).

It is, on the other hand, certain, in a high percentage, to bring back to the perfect functioning a battery weakened only by the sulphation process.

Soto-ww1® and **Soto-ww1S®**, for their dimensions, weight and reduced absorption can be easily transported allowing, therefore, to carry out the regeneration process directly on the facilities eliminating all the labor work necessary for the disassembly of the batteries and limiting, therefore, the downtime to the necessary time for the regeneration.

TYPES OF BATTERIES

Different types of batteries are used according to the use they are destined to.

A battery used to start an internal combustion engine is structurally different for the characteristics of the supply of energy compared to a battery for traction destined to power the electric motor of a forklift or a fixed battery of a UPS.

However, regardless of the type, the above mentioned batteries are all subject to the sulphation phenomenon.

The batteries can be divided as follows:

- Start-up batteries
- Traction batteries
- Fixed batteries
- UPS batteries

USE

The types of batteries previously described can generally be installed on:

- Cars, buses, trucks
- Construction vehicles
- Rail transport vehicles
- Military vehicles
- Pleasure crafts
- Passenger, merchant, military ships
- Lift trucks
- Electric trucks
- Golf cars
- Photo-voltaic systems
- UPS systems

EQUIPEMENT DISTRIBUTED

Soto-ww1®

Base model with the following characteristics

- Supply 100 / 240 V
- Output voltage 0-80 V – 0-80 A – 800 W

Soto –ww1S®

Soto-ww1 powered model with higher performances:

- Supply 100 / 240 V
- Output voltage 0-80 V – 0-160 A – 1600 W

Soto-ww1® and Soto-ww1S® exclusively work with a specific software “SOTO MIND CONTROL” application supplied with the regenerator.