

Research on the Effect of Nanopulser against Battery Performance (Lead Acid Battery)

From 2006 to 2007, Professor Kazuhiro Chiba from Tokyo University of Agriculture and Technology and Pulse Genetec Corporation have been conducting co-research to establish the fine measuring of nanopulser effect for better performance of the battery (lead battery), followed by its evaluation.

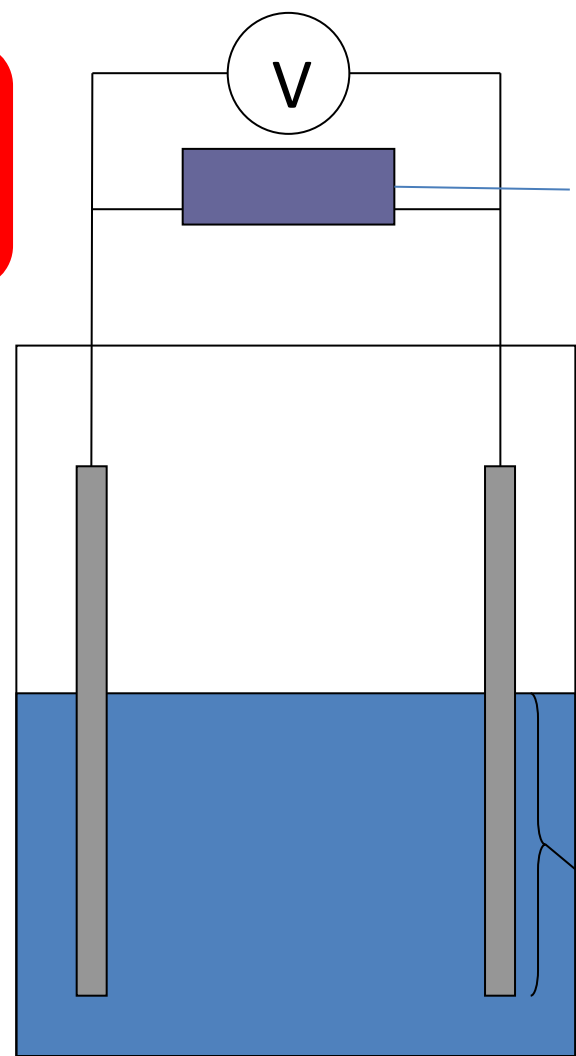
As a result, **nanopulser has proven its sure effect as to its capacity restoration** under the practical condition of usage, i.e. charging and discharge can be done continuously. This is considered to be due to its great synergy effect to control sulfation.



Professor Kazuhiro Chiba

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Specialization: Synthetic Reaction of Electrode, Special Electrolysis Solution and Chemical Reaction through Modified Electrode

Evaluation Method



Power

Power: Output 12V5A (HC12-5C AUTO CRAFT)

Charging: Charging for 12 minutes

Discharging: Measure discharging time until terminal voltage reaches to 10 V.

Electrolysis Solution: 150 ml of Diluted Sulfuric Acid (37% density)

Electrode: Electrode Plate 4 x 4.5 cm for experiment of Lead (Pb) battery × 6 pieces

Temperature: 25°C

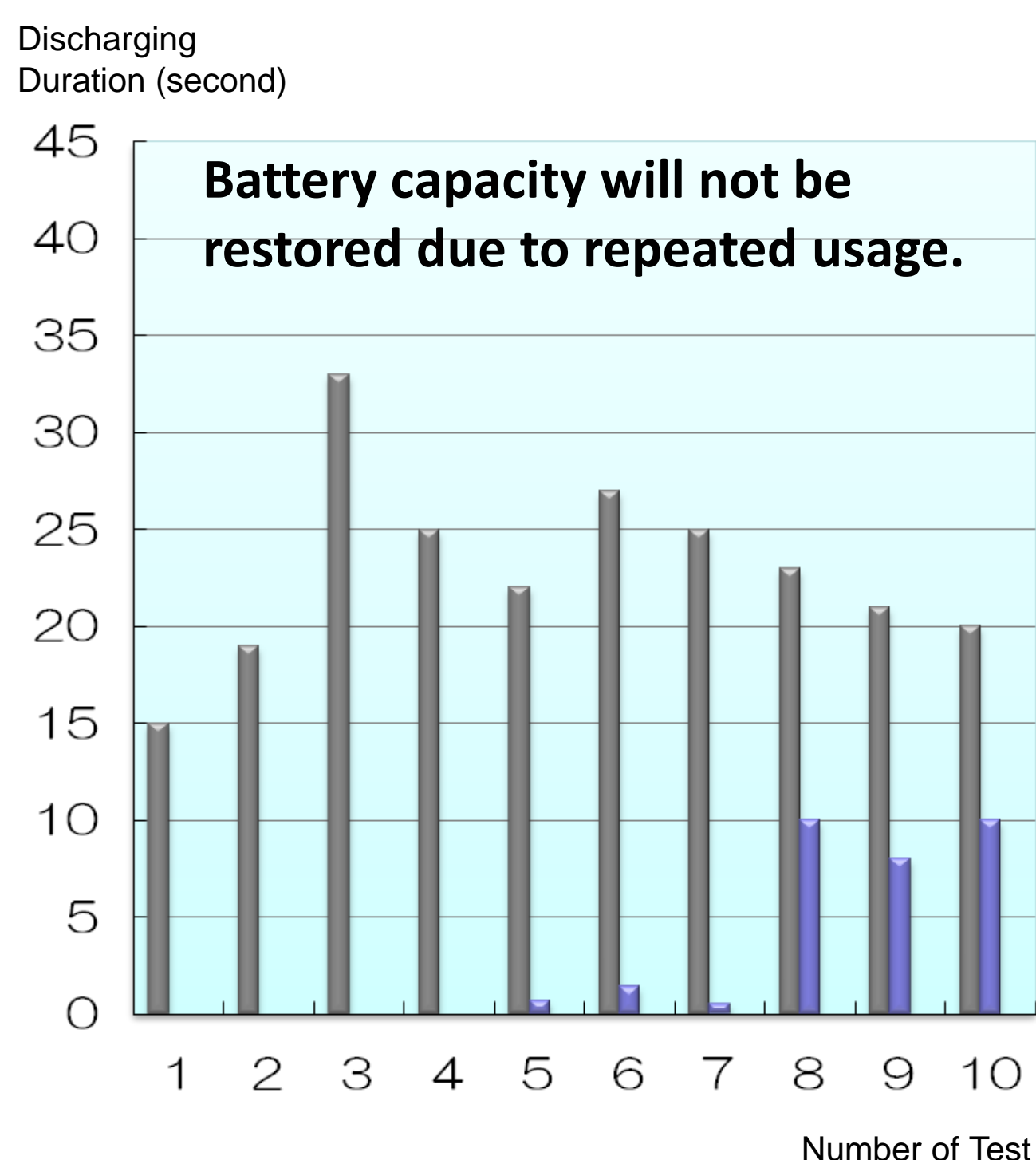
Evaluation Result

Proven Restoring Effect for Battery (Lead Acid Battery) Capacity through Installation of Nanopulser

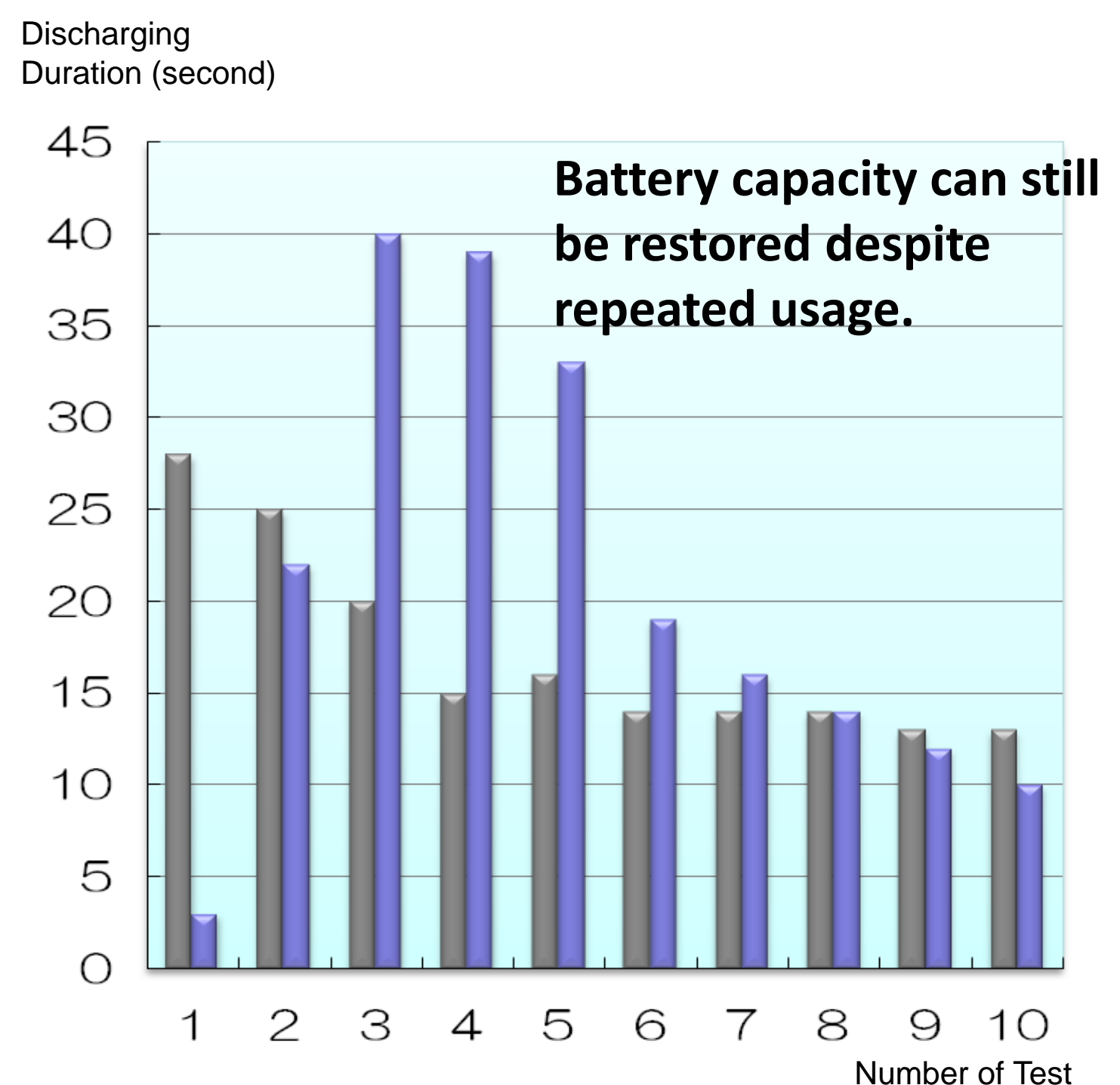
Restoration effect of battery capacity can be an important factor to determine each battery performance. This evaluation method is on the assumption that it is under practical usage condition, i.e. charging and discharging with one week interval will be repeated. As a result, under “without nanopulser” it will not be restored to its original capacity despite its repeated charging, meanwhile, it became evident that the original capacity can be surely restored “with nanopulser installed”.

That is to say, “without nanopulser” it took us 5 times of charging to restore its capacity to 10V, but “with nanopulser installed”, 10V or more of performance and capacity has been always maintained from our initial charging. This is generally because when the sulfation occurs, further sulfation will bring about due to its repeated usage; meanwhile, it is considered that nanopulser will control sulfation to fulfil its drastic synergy effect to maintain battery performance.

Without Nanopulser



With Nanopulser Installed



- Measure battery capacity through continuous discharging with one week interval from initial charging.
- Conduct the same test after another one week interval.