

**Success in Commercialization of the World's First Super Rapid Charger  
for Electric Vehicles  
– Revolutionary Charging System that Can Charge in Only Few Minutes  
Opens the Future of EV –**

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JFE Engineering Corporation

In June 2010, JFE Engineering Corporation (Head Office: Chiyoda-ku, Tokyo; President: Sumiyuki Kishimoto) succeeded for the first time in the world in technical development of a super rapid charging device (Super RAPIDAS), which is capable of delivering an 80% charge\*<sup>1</sup> to an electric vehicle (EV) in only 8 minutes. During the past year, JFE has been working toward commercialization of this technology. Commercialization was completed recently, and the company successfully demonstrated charging to 80% of EV battery capacity in 8 minutes at its Yokohama Head Office using the Super RAPIDAS system and an EV which JFE prepared by modifying a commercial EV to accept super rapid charging.\*<sup>2</sup> Charging to 50% of capacity is also possible in 3 minutes.

JFE Engineering has already marketed a rapid charging system called RAPIDAS which enables 80% charging in 30 minutes. This charger, which uses a battery as an internal charger, is the only CHAdeMO certified device in Japan. By holding power receiving capacity to 20 kW or less, it has won high marks from customers who are not able to increase their power receiving capacity. In commercializing the Super RAPIDAS, JFE developed a hybrid type which also provides the function of the existing RAPIDAS.



Test vehicle during super rapid charging

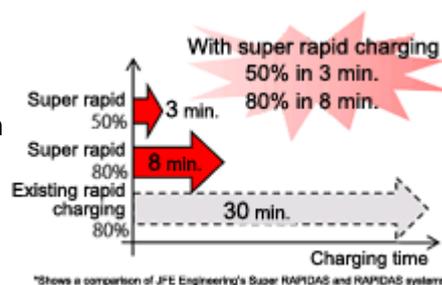
At left: The Super RAPIDAS charging stand, which is equipped with 2 types of charging connectors, enabling both super rapid charging and rapid charging.

[Improvements supporting popularization of EV]

With the existing technology, rapid-charging an EV to 80% of battery capacity requires about 30 minutes. This long charging time reduces the convenience of EV and is one obstacle to wider diffusion of EV. The JFE super rapid charger solves this problem, and will enable speedy charging at a wide range of outlets such as convenience stores, service stations, etc. This is particularly important for accelerating the construction of a charging infrastructure, which necessary for popularization of EV.

[Key technical points]

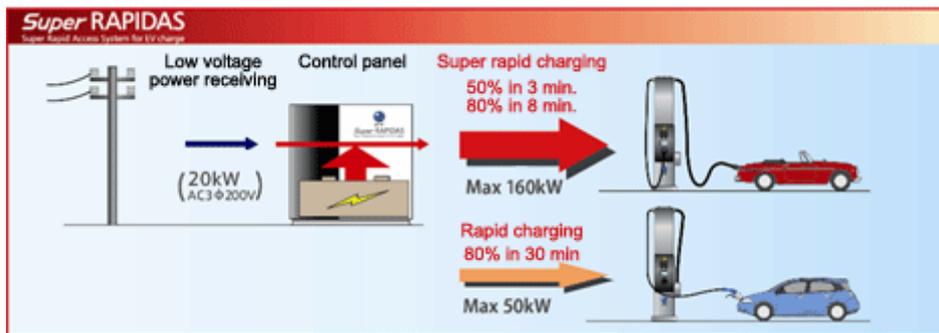
Super RAPIDAS has an internal storage battery, which enables charging in a very short time by “dumping” the stored electricity into the EV.



[Future development]

In the future, JFE Engineering will verify the feasibility of the *Super* RAPIDAS at its Yokohama Head Office, and will promote market entry beginning with projects involving EV fixed-route buses, EV trucks, and EV taxis. This will be followed by introduction of systems for passenger automobiles. As a result, introduction of EV designed for super rapid charging are foreseen. Thus, this technology is expected to revolutionize the world of EV.

[System outline]



\*1 Assumes EV (passenger vehicle).

Super rapid charging will be possible with improvements in charging specifications

\*2 on the automobile side. However, as of September 2011, this function cannot be used with the EV currently available in the market.

For further information, please contact:

Super Rapid Charging System Project Team

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