E-motor testing in China

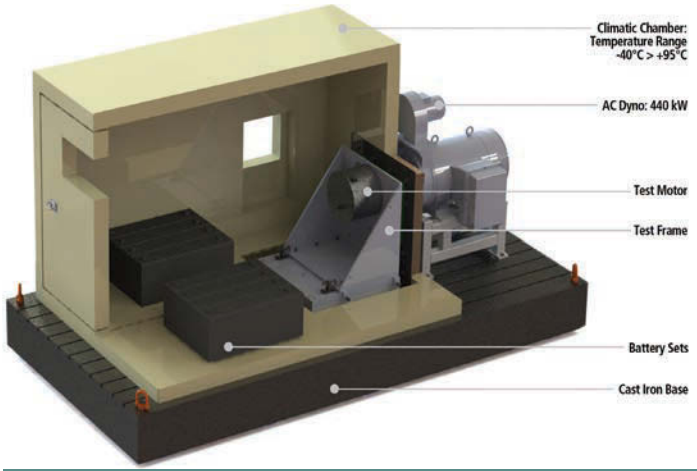
In light of the anti-pollution initiatives recently ratified by the new Chinese government, Foton is ideally placed to lead the way in electric motor and hybrid vehicle development

Based in Beijing, Foton has nearly 40,000 employees in nine Chinese provinces. In 2010, the company sold more than 680,000 vehicles, maintaining a leading position among global commercial vehicle manufacturers.

For Foton, high quality and flexibility were critical selection criteria for choosing a trusted partner to help build their new electric motor development facility in Beijing. After an exhaustive search, Sierra CP Engineering, based in the UK, and EST, its Beijing-based partner, were selected to develop the project based on 30 years of global experience. Their ability to demonstrate both high quality and flexibility in the approach they proposed to building one of the most advanced test facilities of its kind in China, convinced Foton that they were the ideal partners for this project.

When completed, the new facility will include test stands within climatic chambers that enable full dynamic and real-world testing to be carried out under a wide range of climatic conditions. The facility was designed to put the new Foton electric motor packages through their paces, as well as to simulate or test battery packs, battery management systems and motor control systems. These new capabilities make it possible for them to test any part or combination of parts associated with an electric motor or hybrid powertrain.

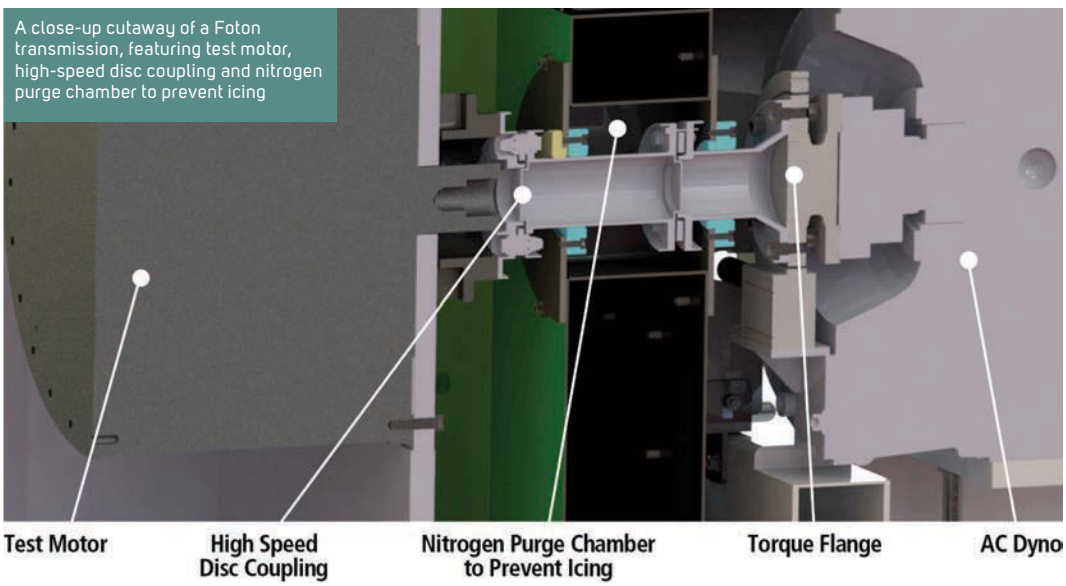
A combination of 165kW and 440kW transient AC dynamometers provide full road load and vehicle simulation. The climatic chambers surrounding the units under test accurately simulate the environmental conditions experienced around the world, ranging from -40°C to +50°C. The test stands are complemented by high-speed data acquisition and controlled by the highly intuitive Cadet V14 automation system. Cadet was designed and developed by Sierra CP to provide integrated control and data acquisition. It has the rare capability of ensuring backward compatibility with previous Cadet software and I/O platforms, thus ensuring clients experience cost-effective and highly flexible operational use for the long-term.



The high-tech Foton climatic chamber can accurately simulate environmental conditions experienced around the world, ranging from -40°C to +50°C

The larger 440kW system has been designed with the potential for future expansion. The addition of a second transient AC dynamometer and enhancements that include minimum operational test stand downtime enable Foton to provide cost-effective system development and enable full hybrid or conventional powertrain tests to be undertaken.

The award of this prestigious contract in China against strong competition is further evidence of Sierra CP's successful global expansion and its ability to offer a fresh approach that is cost-effective, innovative and, most importantly, flexible. This is proving to be a significant advantage for global customers such as Foton, who are looking for that test system edge against the competition in this highly prized area of automotive technology.



A close-up cutaway of a Foton transmission, featuring test motor, high-speed disc coupling and nitrogen purge chamber to prevent icing

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