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Axial DC fans efficiently cool the ETSEIB Motorsport electric formula car at recent 22km endurance race, out-performing the competition...

First Fan System to Successfully Cool Electric Formula Racecar from Orion Fans

DALLAS, TX (October 15, 2015) – Orion Fans has helped ETSEIB Motorsport reach a milestone in electric formula racing. Orion Fans' Axial DC fans were a key element in developing the first effective fan cooling solution for the Formula SAE hybrid carbon fiber Monocoque car's power system. Orion joined the student-run ETSEIB Motorsport team in 2014, with a commitment to providing an efficient fan cooling solution that would keep the electric powered formula racecar batteries operating optimally in extreme conditions. Orion has delivered on its promise with a cooling system that utilizes more than 18 Axial DC fans and can move more than 80 CFM.

The electrical systems used in these electric formula cars can run at 400 volts with a discharge intensity of maximum 250A, generating significant amounts of heat. Traditionally, heat is channeled away from both electric vehicles and electric formula racecars via water-cooling and lightweight heat sinks. These unfortunately are expensive methods of removing heat. Orion Fans' cost-efficient Axial DC fan design provides more

simplistic thermal management, maintaining core temperatures at a safe and operational level.

Recently, at the Formula Student Spain 22km endurance race, held at the Circuit de Catalunya, the ETSEIB Motorsport racecar was best-in-class as it was one of the only vehicles to complete the race. Most vehicles overheated and their electronics and battery systems shut down after reaching temperatures of more than 70°C. Orion's Axial DC fan cooling system kept the vital electronics inside the ETSEIB Motorsport racecar at under 56°C, outperforming the competition.

"The Formula Student Spain competition is based on several different tests, the most important being the 22km endurance race designed to test the cars to the limit," said Ian Cusiné, ETSEIB Motorsport Powertrain Department. "With high air temperatures reaching up to 39°C, more than half of the participants experienced overheating problems. But heat was not a problem for our car thanks to the Orion Fans' products that provide high performance with low consumption of electricity."

The ETSEIB Motorsport team is made up of students studying engineering courses including Industrial engineering, chemistry and materials at the School of Industrial Engineering of Barcelona (ETSEIB). The CAT08e racecar is the eighth version of the vehicle built by the engineering students in Barcelona, Spain, and the first with a Monocoque full carbon fiber chassis.

Orion Fans, a division of Knight Electronics, Inc. is an ISO9001/2008 global manufacturer of standard and custom AC and DC fans, fan accessories, fan trays, and blowers. Established in 1995, Orion Fans supplies quality engineered and competitively priced cooling products and assemblies to OEMs worldwide. The company has engineering and manufacturing facilities in the United States, Europe, and Asia.

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