

# FREEVALVE

## **FREEVALVE TECHNOLOGY UNVEILED AT BEIJING MOTOR SHOW IN QOROS QAMFREE CONCEPT CAR**

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Ängelholm, Sweden

FreeValve AB is pleased to announce its partnership with Qoros Auto, a company based in Changshu, China, for the continued development of FreeValve's Pneumatic-Hydraulic-Electric-Actuator (PHEA) technology for consumer vehicle applications in Qoros vehicles.

Qoros today unveiled a concept car at the Beijing Motor Show showcasing a new Qoros 'Qamfree' engine. The camshaft and associated hardware has been replaced by FreeValve's PHEA technology, which allows far greater control over the engine's intake and exhaust valves. FreeValve technology will allow Qoros to deliver a powertrain in future vehicles that is smaller, lighter, more powerful but with greater fuel efficiency and reduced emissions.

IMG\_2331The Pneumatic-Hydraulic-Electric-Actuator at the heart of FreeValve technology replaces traditional camshaft technology and allows the engine management system to have full control over each individual valve. Where camshaft technology has always been limited to the relationship between the valves and the camshaft position, FreeValve allows independent control over every valve's precise opening/closing position and timing throughout the whole combustion cycle. The result is a disruptive technology that allows an unprecedented degree of control – the kind of freedom that engine designers could previously only dream about.

Could you imagine playing a piano with a both hands tied to the opposite ends of a broomstick? The 'music' produced would be quite unpleasant. Think of that piano as a car's engine and the broomstick as a traditional camshaft. The arrival of FreeValve is like setting aside the broomstick and mastering the instrument by playing with individual fingers.

IMG\_2334Such is the leap in engine technology that FreeValve's PHEA technology represents. Urban Carlsson, CEO of FreeValve and Christian von Koenigsegg, board member of FreeValve and CEO of Koenigsegg Automotive AB, were present at Beijing for the announcement and the unveiling of the Qamfree concept car.

"We are both pleased and proud to have found such a willing industry partner as Qoros Auto to complete the transition of FreeValve's PHEA technology from a working concept to a production application for passenger vehicles" said Urban Carlsson.

Christian von Koenigsegg continued: "We believe that one day in the very near future, the arrival of FreeValve PHEA technology will represent as big a transition, or bigger, than the move from carburetors to direct injection."

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### About FreeValve AB

FreeValve AB is a Swedish technology company and sister company to Koenigsegg Automotive AB that develops state of the art, next-generation components and solutions for internal combustion engines. FreeValve began development of its technology in 2000 and its sixth generation actuator technology represents over a decade of testing and development both in the lab and on test vehicles driven in real world conditions.

## About Qoros Auto

Established in December 2007 and headquartered in Changshu, Jiangsu (also its manufacturing base), Qoros Auto has an initial annual capacity of 150,000 autos and maximum annual capacity of 300,000. With its operation center in Shanghai, Qoros Auto has established design centers, technical centers and engineering R&D centers in both Munich, Germany and Shanghai, China, which are made up of top designer and engineer teams from all over the world.

At present, Qoros Auto has four major models: the Qoros 3 Sedan, Qoros 3 Hatchback, Qoros 3 City SUV and Qoros 5 SUV. Qoros also unveiled the Qoros 3 Q-LECTRIQ EV concept car at the Beijing Motor Show with plans for release in 2017.