

## IAA concept study by ixetic: The heating/cooling module for electric vehicles

Date: 09-01-2010 03:15 PM CET

Category: [Tourism, Cars, Traffic](#)

Press release from: [ixetic](#)

Agency: **Press office ixetic GmbH c/o STROOMER PR | Concept GmbH**



Bad Homburg, 1 September 2010. ixetic GmbH in Bad Homburg has developed a new heating/cooling module for electric and hybrid vehicles. The innovative modular system is extremely economical and efficient due to a closed cooling circuit that is driven by carbon dioxide (R744). With its water interface, the system can be connected in any vehicle.

The new module takes care of an electric vehicle's entire thermo-management, from cooling vehicle components such as electric motors and lithium-ion batteries, to internal cooling and heating. ixetic's innovative concept is impressive in every way. The heart of the system is the heating/cooling module, run using the environmentally-friendly refrigerant R744. The electrically-driven compressor weighs just 6 kilos and has a capacity of over 4 kilowatts.

“With our concept we are making a significant contribution to extending the range of electric vehicles during the cold months of the year”, says Georg Wolf, Chairman of the Board at ixetic GmbH, describing its main benefit. “While conventional heating technologies almost halve the range of an e-vehicle in winter, our concept enables the remaining range to lie between 85 to 90 percent.”

### Contact-friendly module

The concept's interface for connection with standard vehicle components such as heaters and coolers is both ingenious and straightforward. The heating/cooling module can be integrated in an electric vehicle without substantial modification to existing systems. It heats or cools the water-glycol mix in the vehicle according to need. The compressor's high efficiency results from its capacity of up to 4.5 kilowatts, a temperature range of up to 180 degrees Celsius, and pressure of up to 133 bar.

The concept has a modular structure, and ixetic offers the compressor in three different performance classes to meet individual requirements. The heat pump is driven by a 300-volt DC motor (BLDC).

The R744 heat-pump concept, separated from the air-conditioning circuit, means maximum safety for the passenger interior and low-cost installation because there is no need for gas safety sensors. Air-conditioning servicing is unnecessary, and the module is totally maintenance-free.

#### Environmentally-friendly technology

In the search for a suitable alternative to the refrigerant tetrafluoroethane (R134a), currently still in widespread use in air-conditioning systems, ixetic favours the climate-neutral gas CO<sub>2</sub> (R744), which is ideally suited for heat-pump operation. CO<sub>2</sub> is neither poisonous nor combustible. It has no ozone-destroying potential, is chemically inactive and is extremely cheap. Consequently there is no need for either recovery or disposal. R744 moreover fulfils the European Union's F-Gas Regulation.

#### Premiere at the IAA for commercial vehicles

ixetic showcases the concept for the first time at this year's IAA commercial vehicle trade fair in Hanover, held between 23 and 30 September, with interested visitors being given demonstrations and explanations of it at Stand A19 in Hall 26.

#### Brief portrait of ixetic GmbH

ixetic GmbH, with its headquarters in Bad Homburg (Hesse/Germany), is one of the world's leading manufacturers of hydraulic and vacuum pumps for the automotive industry. In 2009 company turnover was around 212 million euros. ixetic has been an independent company since March 2006. Before that, ixetic was part of the company LuK Fahrzeug-Hydraulik and LuK Automobiltechnik, which in turn belonged to INA Holding Schaeffler KG. Today, ixetic is owned by the holding company cognetas. The company has around 1,200 employees at its German plants in Bad Homburg and Hückeswagen and its plant in Plovdiv (Bulgaria). Branches in Brunswick (USA), Shanghai (China) and Yokohama (Japan), a joint venture with DSI in Bangalore (India), a partnership with DHB in Porto Alegre (Brazil) and agencies in Russia and Korea complete the picture. The Managing Directors are Georg Wolf (Chairman) and Norbert Gruber. The ixetic product range covers hydraulic pumps for steering, chassis and gearbox applications, vacuum pumps for brake systems and lubricating oil pumps. Customers include renowned vehicle manufacturers such as Audi, BMW, Daimler, Porsche, Renault, Ford, Toyota, Volkswagen and all leading manufacturers of heavy and medium-heavy duty trucks such as Navistar, Scania, Daimler and Volvo.

For further information about ixetic visit: [www.ixetic.com](http://www.ixetic.com)

Press office ixetic GmbH c/o STROOMER PR | Concept GmbH

Tobias Salein

Rellinger Str. 64 a

20257 Hamburg

Germany

Phone.: +49 40 85 31 33 18

Fax: +49 40 85 31 33 22

[www.stroomer-pr.de/content/en](http://www.stroomer-pr.de/content/en)

[You can find this press release here](#)