



## Success Story Cooling Solutions Designed by Elektrosil: Intelligent seat cooling for cars

Optimal seating comfort: In hot summer sunshine, almost every driver longs for proactive seat cooling. When this extra works well, even driving in hot weather becomes a pleasure. In developing the ventilation solution for Volkswagen passenger car seats, Elektrosil has demonstrated how complex and efficient such technology can be.

### ► The challenge

Volkswagen wanted a sophisticated ventilation system based on condensation cooling. The requirements were clearly defined: high-performance, minimal noise and vibration, and robust material without plasticisers. The cooling was to be effective but not too powerful.

### ► The solution

The Elektrosil engineering team decided on a completely new development based on the required fitting dimensions. They confirmed the required ventilation system performance, cooling, noise level and minimal vibration by means of comprehensive measurements and tests. The behaviour of the individual components was agreed in close collaboration with Volkswagen in a simulated installed state.

For intelligent control, the fan was incorporated via a LIN-bus interface and connected to the central controller and operating panel. The software for the

blower was produced in conjunction with Elektrosil subsidiary Mitron. In addition to the the operating functions, the team also programmed various safety features.

A great deal of skill was required when designing the printed circuit board for the smallest possible space. All components were positioned, EMC specifications were considered and numerous design requirements were taken into account in just a few square centimetres.

On later generation vehicles, Elektrosil's fan specialists improved the fan housing by adding a stable guard bracket for mechanically protecting the blower. This measure replaced the separate steel bracket which was previously required and therefore reduced the production costs.

### Project information

- Client: Volkswagen
- Sector: Automotive
- Start November 2006 for the Passat Coupe, over 6 years for 11 vehicles worldwide

### Elektrosil's services

- Application advice, development supervision, design-in support
- Quality Assurance
- Engineering and production
- Completely customised applications





“We wanted a pleasant in-car seating environment.  
That’s when I called Elektrosil.”

### ► Advantages and benefits

With the sophisticated ventilation solution, Volkswagen is demonstrating user-friendliness and innovation while making its vehicles even more attractive. At the same time the costs for engineering and production remain within the limits for the required unit price thanks to Elektrosil as a reliable development partner.

Comprehensive and in-depth electronics expertise and a clear view of the whole – with these qualities, Elektrosil has developed an intelligent blower for car seats which guarantees that drivers keep a cool head even on hot days.

Are you looking for an application for your product and need a development partner? Then give us a call.

### + Elektrosil’s strengths

Elektrosil demonstrated all its strengths in concept development and its expertise in fan design, printed circuit board design and software development for the Volkswagen project. In production, Elektrosil showed itself to be the ideal point of contact when communicating with manufacturers thanks to its extremely long experience in the Far East.



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