



„Hot air in the oven wasn't everything: It was the flow that mattered.

That's when I called Elektrosil.“

Conjuring up a juicy roast with little effort – ensuring that the warm air flows optimally in the high-performance oven, Elektrosil developed a customised circulating air solution in a class of its own.

### THE CHALLENGE

Recirculating air power for a baking innovation: A leading kitchen appliance provider required a 24 V DC reversing motor with a power rating under 12 Watts which was quiet and temperature-resistant to ensure a uniform distribution of air and heat. Elektrosil took on the development – with strict cost specifications.

### THE SOLUTION

The team designed an energy-efficient, brushless 3-phase DC motor. By cyclically reversing the rotation of the drive, the team of experts achieved the uniform airflow which is necessary for perfect baking results. For cooling the motor at high temperatures, the engineers developed an internal cooling concept according to the customer's specifications. They matched the fan function to the operation of the oven during the 500-degree pyrolysis self-cleaning phase by means of software. To reduce the operating noise below 30 dBA, the team developed a commutation method that reduces the cogging torque of the brushless DC motor.

With the circulation motor, Elektrosil provided the client with the innovative, high performance and optimised drive solution for his premium oven befitting his position as a top innovator in the market. With fully automatic baking programmes and uniform airflow, the units provide end-users with benefits and convenience to an extent which sets new standards in the field of oven technology.

### OUR STRENGTHS

- Solid know-how in drive and fan development
- Extensive expertise in electrical engineering, software development, printed circuit board design and flow technology
- One-stop shop: From consulting to development and simulation to manufacturing and delivery

### Project information

- Client: A leading supplier of home appliances
- Project size: > 90,000 units per year
- Sector: Home Appliances
- Product area: Cooling Solutions
- Services: Drive development and fan optimisation, software development, printed circuit board layout, module production

### Elektrosil's services

- Application consultation, development assistance, design-in support
- Quality assurance
- Engineering and production
- Completely customised applications

**Are you also looking for a custom-fit solution for your system and a competent partner? Then give us a call: +49 40 840001-0.**

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