

# Development of an all-in-one chair recliner with touchscreen

**Lumbar supports, air comfort systems, seat heating, relaxation and massage functions: Comflair from Angelo (NL) develops mechanical components for seats and supplies the automotive and furniture industries. Jilgert Lammers is responsible for sales and development. During the development of a new all-in-one hand control for recliners, he found inspiration in an unexpected place. Thanks to the cooperation with SCHURTER, his idea was transformed into a series product.**



The revolutionary all-in-one hand control

"A modern recliner is full of technology," says Jilgert. "We already knew about options such as seat heating and massage from the automobile industry. About ten years ago, the furniture industry also began to demand more and more of the wellness functions, as we call them. We jumped on this bandwagon back then. It started with small developments and from these we developed a whole range of options. Especially for recliners."

SCHURTER has everything in-house: own production, own development, own engineers. That was the decisive factor.

## Complex inner life

Jilgert saw that the integration of all these functions was becoming increasingly complex. The same applies to the way they work. Jilgert: "Inside such a chair you have a large cable duct, many cables and buttons. The chair itself already has

many options and versions for adjusting the sitting posture, to which the wellness options are added. To control these options you need a whole range of controls. The challenge for me was how to do this with just one single control unit".

## The inspiration

The idea that led to the revolutionary all-in-one hand control came - as so often

- quite accidentally. Jilgert: "One evening I stood at the ceramic hob in my kitchen and noticed that you don't actually see any buttons there until you touch them. So I thought it would be ideal if you could do something like that for a chair control. So I started looking for a partner who could support us in this. Because we don't have this know-how ourselves."

After a brief search, Comflair came across SCHURTER. Jilgert: "I saw that SCHURTER had everything in-house: its own production, its own development, its own engineers. That was the decisive factor for me. We wanted to do it right the first time."

## From the idea to technical the realisation

The basic idea for the operation was clear. Jilgert: "I knew very well what I wanted and that it was basically possible. But the technical implementation was complicated. How do you get all the functions and systems from different suppliers to communicate correctly with each other? That was quite a process. And in practice, things sometimes turn out differently than expected. You run into software errors, you have to deal with ESD (electrostatic discharge) and EMC (electromagnetic compatibility) sensitivity. These are all problems that have to be solved".

## Personal contact

The personal contact was important for Comflair. Jilgert: "During the development phase I had a lot of direct contact with development engineers at SCHURTER. It is great to see that this personal contact is still relevant and alive. Even in a larger organisation like SCHURTER, they also liaised directly with the hardware and software developers of our suppliers when necessary. This is just great, really perfect."

Jilgert continues: "For the world of chairs, loungers, and recliners, this is very high-tech. In the past we used to work with controls with buttons. One for each function. This meant, for example, that the button for operating a headrest could not be used for a standing aid. As a result, there were 16 different controls with different dimensions for a single chair. But now we are back to a universal control. All with the help of the touch screen control

and the idea of the hob. Without such a capacitive panel, this control would be much too large. This is actually the only solution. A beautiful, visually appealing one at that."

## Technical masterpiece

The chair itself works with a battery. This is therefore a floating, unearthened system. That is why special attention had to be paid to ESD and EMC. A tricky point. It was found that ESD really did destroy some parts. With this knowledge, engineers from SCHURTER spent a day on site and were able to solve these problems. SCHURTER is very experienced in the field of ESD. "This active thinking and know-how was worth a lot", Jilgert sums up.

## The end product

The end product that SCHURTER supplies to Comflair is a manual control system based on capacitive keys, so-called CapKeys. The control panel has a printed acrylic front with "Deadfont" symbols that light up at 50% light intensity and light up when pressed 100%. The whole thing is glued to a plastic light guide and fitted with a printed circuit board. This sub-assembly is delivered to Comflair fully tested.

The first chair with the new capacitive control panel is now on the market, production is in full swing.

## Successful cooperation

Jilgert Lammers of Comflair looks back with satisfaction on the first cooperation with SCHURTER. "We have realised something very special, the first CapKey operation in an armchair. With luminous symbols instead of physical buttons. This is truly revolutionary. You notice immediately that SCHURTER has a lot of know-how in house. They have a profound knowledge in the field of electronics and work very well with our existing EMS partner. In addition, SCHURTER's advice and implementation in the field of ESD and EMC was decisive". It was a great advantage that SCHURTER has both engineering and production in-house - in this case in the Netherlands. This made it possible for the engineers involved to exchange information quickly - even those who visited suppliers on site.

Jilgert's conclusion: "With the prototypes, which SCHURTER was always able to

deliver quickly, we were able to keep the chair manufacturer up to date on progress. Thanks to the pleasant personal cooperation with SCHURTER the process was efficient and successful".



Manual operation based on capacitive keys.

## About SCHURTER

The SCHURTER Group is a globally successful Swiss family business. With our components ensuring the clean and safe supply of power, input systems for ease of use and sophisticated overall solutions, we impress our customers with agility and excellent product and service quality.

SCHURTER Electronics B.V.  
De Nieuwe Haven 12  
7772 BC Hardenberg  
Nederland  
+31 523 281 200  
info.nl@schurter.com  
schurter.com