GLASSCAPE

The Future of Data Entry Starts Here.

RAFI
SOLUTIONS WITH PASSION

GLASSCAPE

Operating Panels to Take You into a New Age.

REVOLUTIONARY No other product was as instantly successful in its market as the iPhone. Why? Because it came equipped with a completely new operating surface, making it stand out from all other smart phones.

RAFI's GLASSCAPE also has everything you need to give your products a head start. With GLASSCAPE, you'll set value against lack of choice, passion against indifference, emotion against boredom.

COMBINED GLASSCAPE combines display and operation in a single unit. It not only looks good, it's also very easy and safe to use. In the GLASSCAPE display and operating panel, you can include buttons and sliders, wheels and touch screens in all shapes and colours. Touch, visual or acoustic feedback ensures easy and reliable operation.

TOUGH The GLASSCAPE surface increases the durability of every application. The closed glass or plastic surface can be easily cleaned at any time and will always look clean and hygienic.

VERSATILE The versatility of GLASSCAPE will help you solve all your product operating problems: from a simple keyswitch to a highly complex input unit with touch screen and capacitive proximity sensor. They will always have one thing in common: outstanding appearance and reliable function.

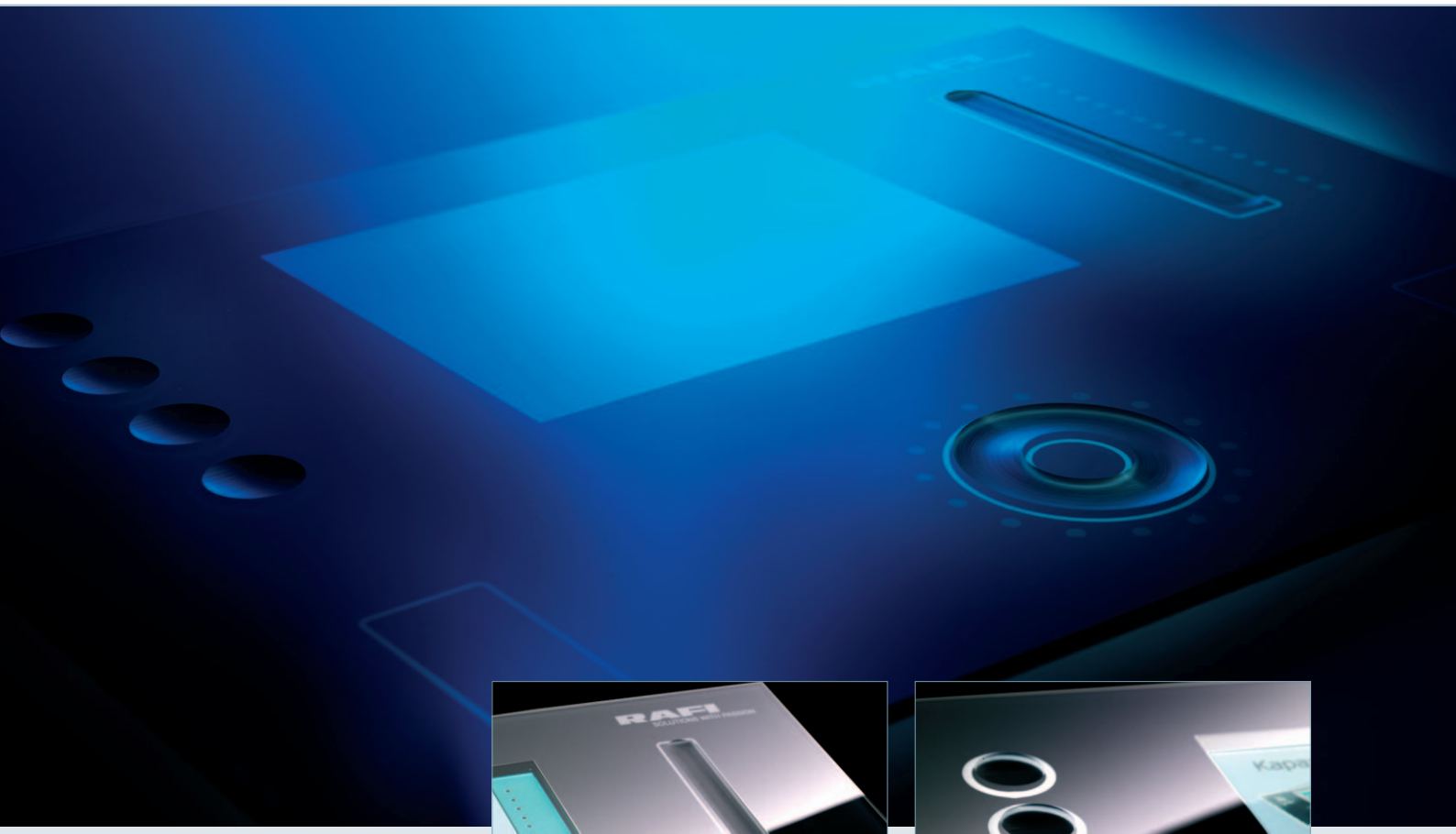
UNIVERSAL GLASSCAPE is amazingly versatile to use: white goods, brown goods, industrial panels, scales, tills, scanners, medical technology, automotive technology, POS terminals. GLASSCAPE will always impress, due to its outstanding design, exemplary usability, problem-free hygiene and extreme durability.

UNIQUE The Unique Selling Proposition, that inimitable sales promise, is an essential part of every marketing strategy. With GLASSCAPE, you can send your products off to the sales front with a genuine USP.

SUCCESSFUL Think outside the box, take a different path, cross boundaries – with the innovative GLASSCAPE operating concept, your products can start life with the genes for success.

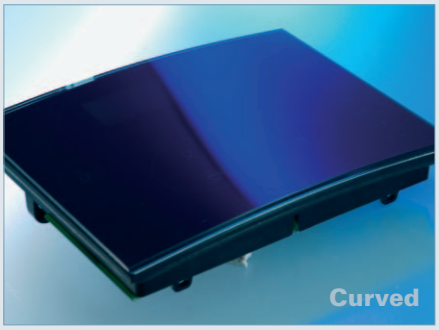
GLASSCAPE

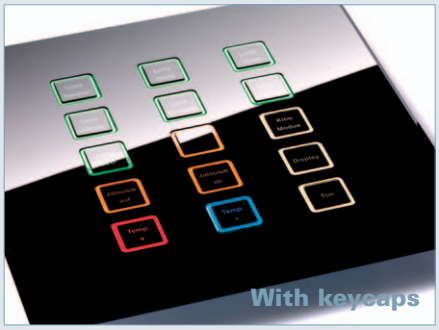
Surfaces to Widen Your Horizons.



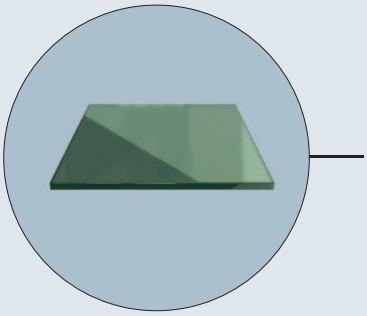
TOP DESIGN You can grind, etch, cut out, bend, polish, matt or score GLASSCAPE surfaces. This is a completely new aspect of glass. Talk your design ideas over with us. With GLASSCAPE, you can set brand new trends.

RAFI's GLASSCAPE provides you with absolutely closed control panels that combine the highest degree of safety with outstanding user-friendliness and first-class design.

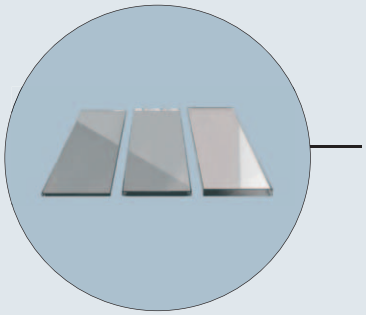




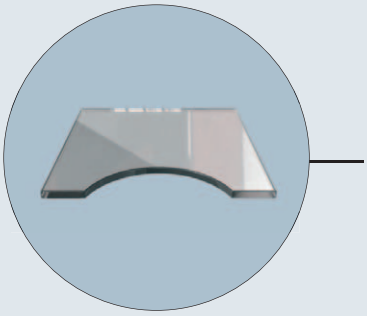
GLASS RANGE



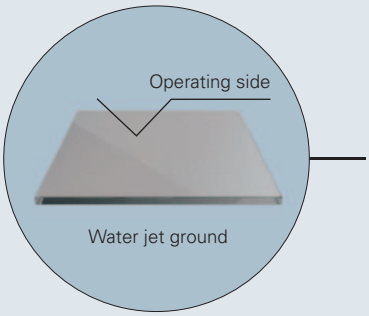
Type
NONFLEX glass
Float glass
White glass
Grey glass
Hardened glass (chemical, thermal)
Etched glass
Non-reflective glass
Toughened safety glass
Special glass



Glass thickness
3.00 mm standard
5.00 mm standard
Thickness tolerance +/- 0.20 mm

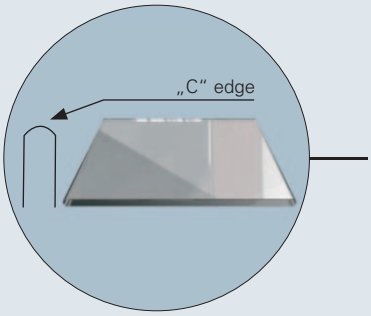


Outer contour standard	
Straight	tol. +/- 0.20 mm
Straight with flanging radii	tol. +/- 0.20 mm
Outer contour special design	
As per drawing	
Drilled	



CONTOUR FINISH

Edge surface
Ground, standard
Scored/chamfered
Water jet cut (rough)
Highly polished

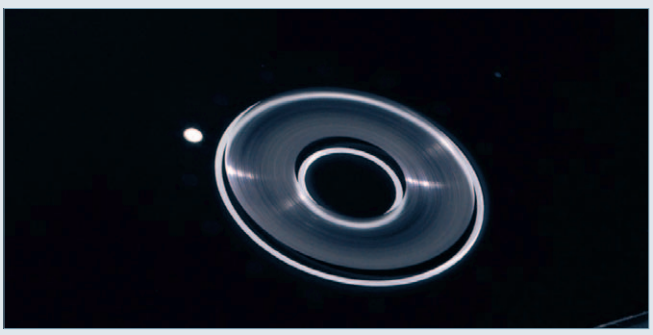


Edge quality
Edges bevelled both sides Standard 0.50 x 45°
Edges bevelled on one side, 2nd side with protective bevel (colour breaking off)
„C“ edge

Further design options on request.
Plastic surfaces instead of glass are also an option.

GLASSCAPE
Displays in Depth.

RING ILLUMINATION
The switching status of the buttons is indicated by illuminated rings in different colours surrounding the buttons.



POINT ILLUMINATION
Points can indicate the switching position of a capacitive wheel or slider.

FULL ILLUMINATION
Full-surface illumination of capacitive touch screens or display surfaces.

USABILITY The use value of your products depends quite decisively on easy operation. This is where GLASSCAPE offers you options far beyond the usual standard.

In a GLASSCAPE operating panel, all the operating components are under glass. This gives every panel a modern, high-quality look, and adds value to your application.

DURABILITY Standard keyswitches can wear down. With GLASSCAPE, the operating components are under glass - and remain unchanged for their lifetime.

GUIDANCE GLASSCAPE is suitable for all applications that are intuitively operated, in an industrial or a retail environment. With GLASSCAPE, you use shape, colour and above all light for guidance. Switching status is clearly indicated, input options are guided by illuminated signals.

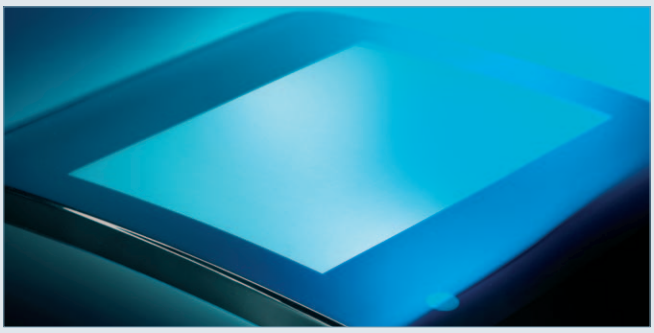
PRINTING With GLASSCAPE, you decide what you like. Because all graphic applications are printed on at the RAFI works using screen, digital or tampon printing, you can let your imagination run riot.

COLOUR RANGES With GLASSCAPE, you can choose your colours from three different defined colour ranges: RAL, HKS and Pantone.

This means you can adjust the colour design of your panels in the best possible way to your company's corporate design, your product design and the requirements of the task.

MOTIFS Sharp-edged lines, large surfaces, exact legending, progressions, images – anything is possible. You can design extremely elaborate motifs.

ON/OFF Illumination and disappearing effects make operating components visible exactly when they are needed. This simplifies guidance for the user and ensures that the panel looks elegant when not in use.

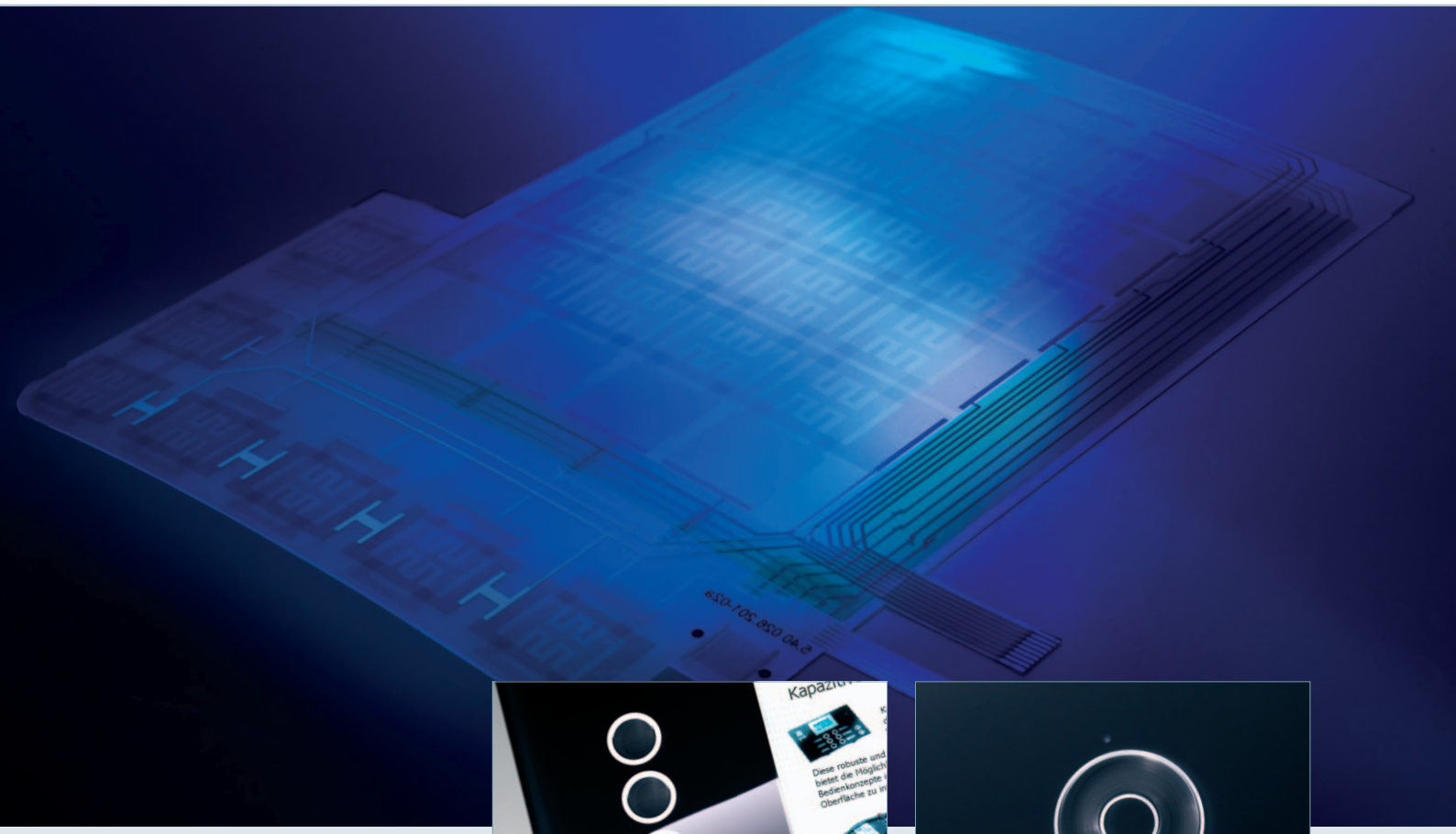


DISAPPEARING EFFECTS
Inactive keyswitches or switching surfaces „disappear" from the display.

SIGNAL INDICATORS
Signal indicators for the design and safe user guidance through displays.

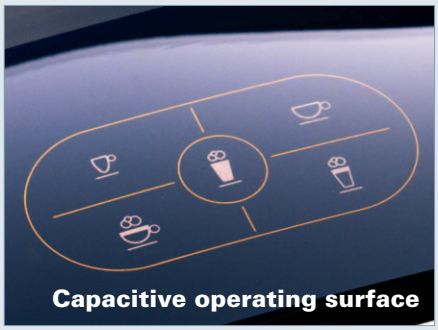
GLASSCAPE

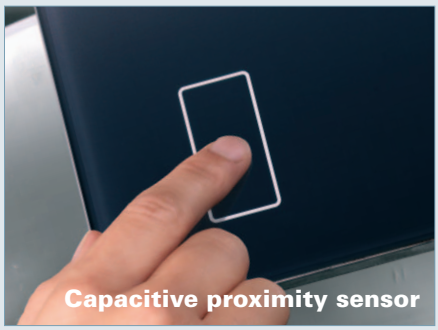
Super-Sensitive Operation.

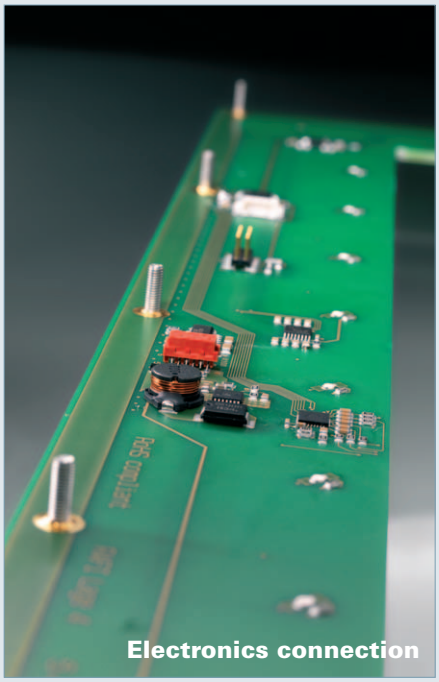


SENSOR SYSTEMS Behind the absolutely closed glass surface, a wide range of sensor systems is working for reliable input:

- Capacitive keyswitches
- Capacitive sliders
- Capacitive wheels
- Capacitive proximity sensors
- Capacitive matrix touch screens
- Capacitive touch pads
- Capacitive touch screens







Electronics connection

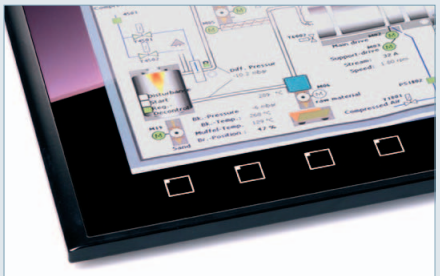
SYSTEM STRUCTURE The sensor surfaces of the capacitive GLASSCAPE operating components are laminated onto the closed glass or plastic surface, which is printed on the back.
The principal distinction is between transparent and opaque carriers for the capacitive sensors

NOT ILLUMINATED Sensor surfaces that are not to be illuminated are created in copper on the printed circuit board. The circuit board is then adhered to the back of the printed glass or plastic pane. The capacitive evaluation electronics are in turn situated directly behind the printed circuit board.

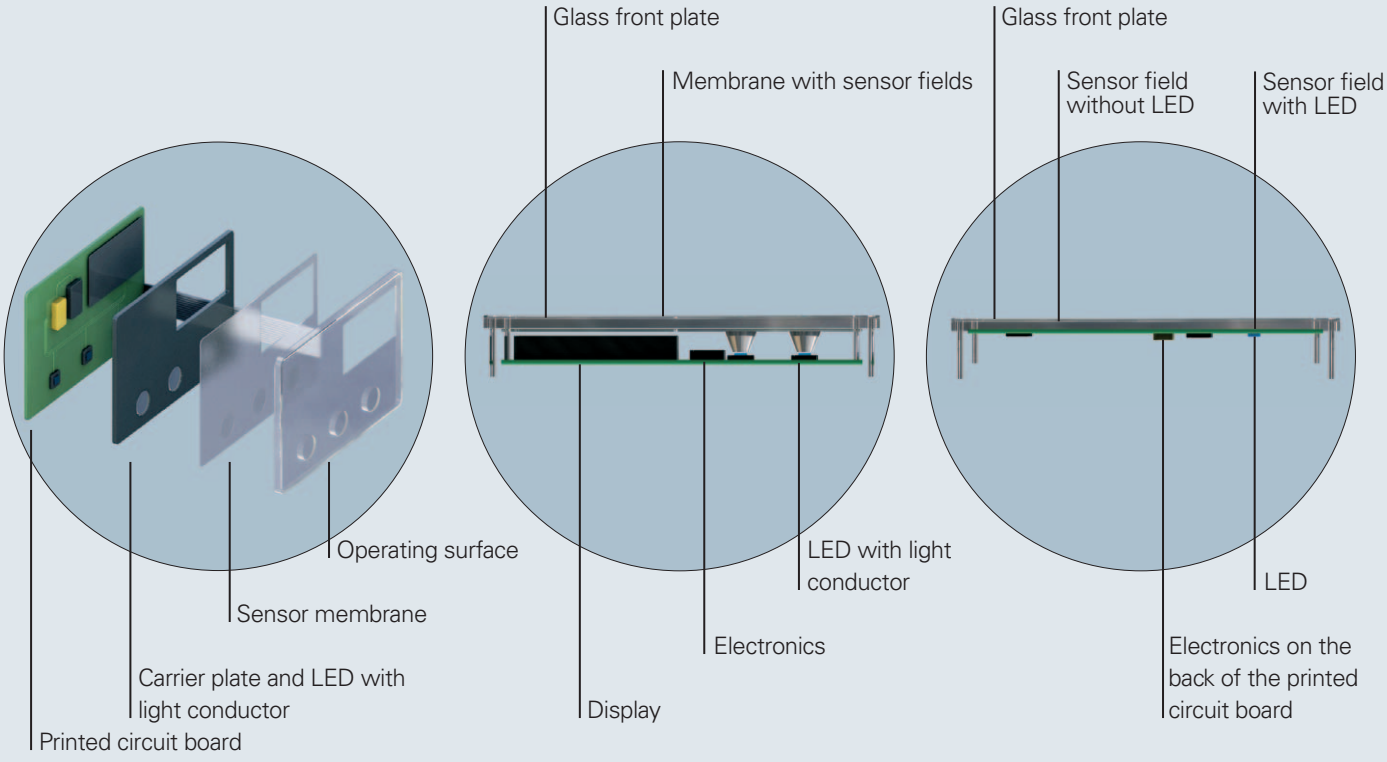
ILLUMINATED Illuminated sensor surfaces, on the other hand, are produced using transparent surfaces. These transparent surfaces can be created using an ITO membrane, or a polyester membrane printed with transparent conductive lacquer. In this way, ring illumination and symbol or surface illumination can be produced.

The capacitive sensor membranes, laminated directly onto the glass or plastic pane, are guided via a tail to a printed circuit board with the evaluation electronics positioned behind them.

TOUCH SCREEN Capacitive touch screens make very high demands on the optical laminating onto glass or plastic. The procedure must be carried out with the greatest precision and absolutely bubble-free. RAFI has now optimised this process to such an extent that GLASSCAPE can guarantee the very highest quality.



Customer-specific design



GLASSCAPE

Touch-screens - top quality and suitable for industrial

Multi-touch capacitive, multi-finger operation possible

EMC resistance certified according to industry standards

TOUCHSCREEN Unlike other technologies, the capacitive touch-screens developed and manufactured by our company are suitable for use in industrial environments.

They are EMC-resistant according to industrial standards and can easily be operated with gloves. Typical touch-screen operating errors caused by simultaneously resting the wrist or propping on the touch-screen are detected and filtered out by the electronic sensing module. An increased temperature range and high resistance to malfunctions caused by soiling or water make the touch-screen suitable for industrial application.

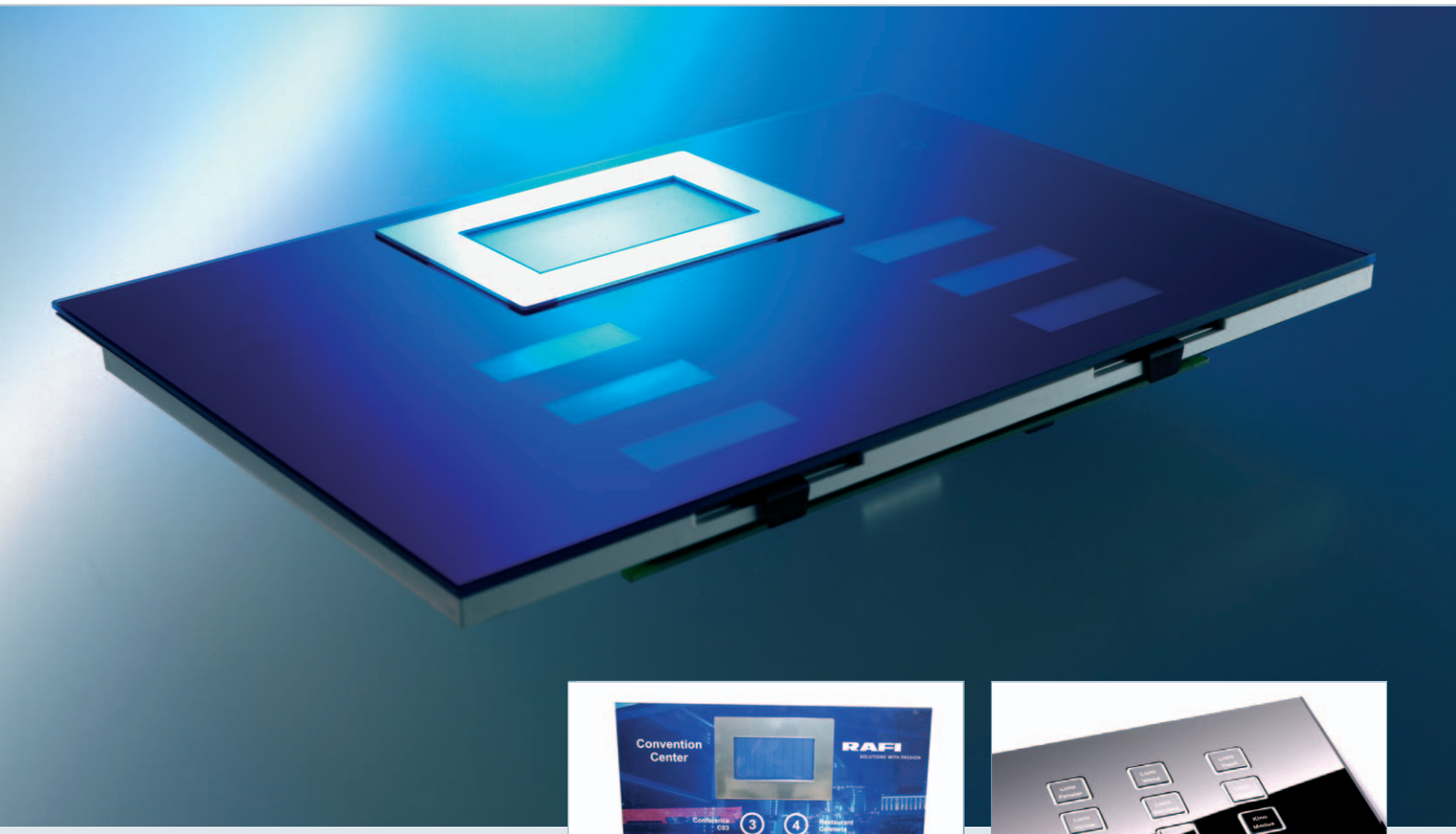
Cleaning does not cause any malfunctions

Water on the touch-screen does not cause false tripping

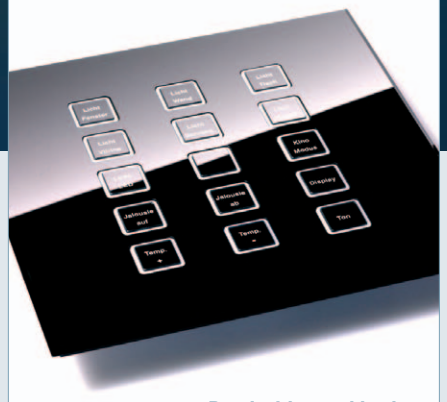
No operating errors when the wrist rests on it

Operation with gloves and simultaneous propping without any operating errors

applications.



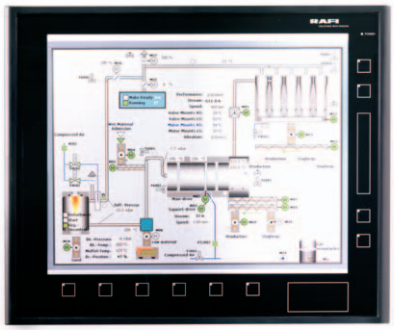
Capacitive elevator panel
with digital touch screen, digital printing



Panel with movable glass
keycaps and keycap
edge illumination

ADDED VALUE Capacitive input technology opens up new possibilities in the design, application and operation of procedures.

In addition, it offers extremely high resistance to mechanical and chemical stresses, as operation uses closed surfaces printed on the back. Not even millions of operations can damage such a system.



Automation panel
with touch pad and slider

Panel for coffee machine with
digital touch screen and legend inserts

DEVELOPMENT GLASSCAPE is an innovative development from RAFI's research department. Experienced, highly specialised development teams from all areas have brought all of their experience in the design, construction and production of operating panels to create this new product.

Our competencies in development cover the whole life cycle of the product: from development of the mechanics, electronics and software to successful product realisation and the necessary means of testing and operating, right up to supervising series production.

Working from a base of the most modern technology, simulation equipment and an efficient development process, our development teams follow the product from the initial idea right up until it is ready for series production.

APPROVALS We can arrange various approvals according to the customer's requirements:

- CE approval
- UL approval
- Medical technology approval as per IEC 60601
- KBA e1/E1 approval
- Functional Safety IEC 61508-SIL2
- Other

PRODUCTION RAFI has facilities for the whole vertical range of production on their premises.

- Production of components
- Assembly
- Mounting
- Software
- Checking and testing
- Packaging and logistics
- After sales service

Our methods of production are oriented towards both economic and ecological standards. It is the aim of RAFI to achieve a defined standard of quality together with optimum profitability, as well as a careful use of natural resources and a high degree of environmental acceptability.

By applying CIP principles, production has been geared long-term towards meeting the demands of the future:

- Design and optimisation of our production processes
- Directing all resources and activities towards the optimum satisfaction of the customer's wishes
- The most modern process technology (AOI, traceability …)

INDIVIDUAL Every device makes different demands on the operating unit. With GLASSCAPE, you can do justice to every application. You can use shaping to improve haptic qualities. You can integrate plastic surfaces with further 3D features. You can employ capacitive near field communication and transmit data for short distances without touching.

SOLUTIONS RAFI's GLASSCAPE has already proved itself, with excellent results, in practice in gastronomy and industry.

Its advantages, in the rough and tumble of everyday use, are break-resistant reinforced glass, perfect hygiene, reliability and durability without moving parts, and optimum protection of the displays.

EXAMPLES Get in touch with us if you want to know more about GLASSCAPE, the innovative development in input technology.

We can show examples of how the optimum solution for your machine would look.

Printed: 2012/05/25

RAFI GmbH & Co. KG
Ravensburger Str. 128-134, D-88276 Berg/Ravensburg
Tel.: +49 751 89-0, Fax: +49 751 89-13 00
www.rafi.de, info@rafi.de

RAFI
SOLUTIONS WITH PASSION