

Kuhnke Sub Plate Technology

Highly integrated solutions with AirBoard® and FluidBoard®



Modern requirements in fluid technology

Innovative sub plates are...

...compact

Due to rising requirements regarding the design envelope, small solutions with high power density are necessary. Furthermore, a high level of automation secures the usage under several conditions and high reliability.

...cable-free

Cable-free system solutions are ideal for industrial automation since the wiring processes are time consuming and cause long assembly and handling times.

...highly integrated

Especially in industrial applications complete solutions are required. Cutting-edge products unite several technologies and minimise complexity in the customer's application.

...widely applicable

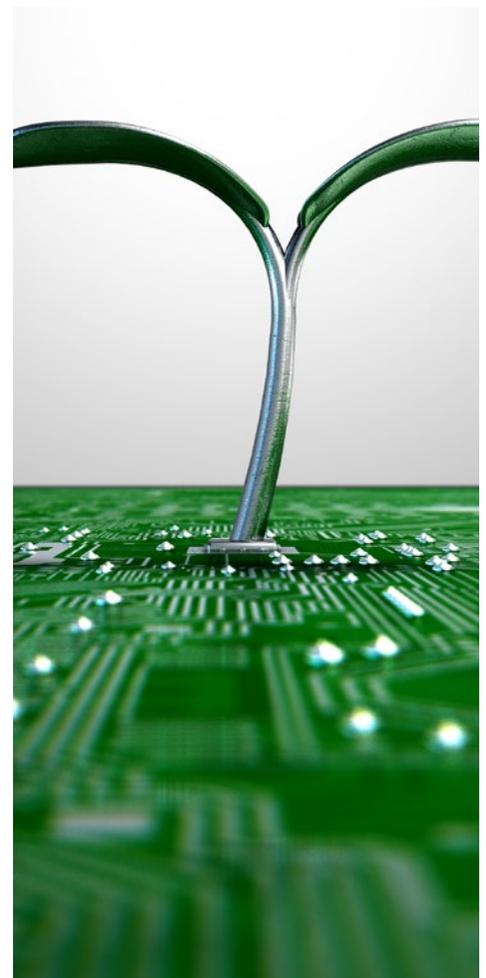
Customisation regarding design envelope and functions makes sub plates versatile whether they are applied in a huge printing machine or in a small analysis device.

...quickly installed

A time-consuming installation of a new product absorbs valuable resources and customers constantly call for shorter delivery times. Therefore, speed and simplicity are decisive in many branches.

...energy efficient

In the industrial and medical fields the requirements regarding energy saving have been rising which makes energy efficient products essential.



What Kendrion solutions can do for you

Our solutions are compelling because...

...we optimise the design envelope

With Kuhnke sub plates by Kendrion electronic and fluidic components are consolidated in one solution. Depending on the application's environment, the shape of the sub plate and positions of the interfaces can be individually designed.

...we create tubeless connections

AirBoard® and FluidBoard® have the fluidic and electronic components on one level and therefore combine the advantages of printed circuit boards and fluid technology. With this concept interfaces can be minimized and a time-consuming wiring process is not necessary.

...we have multiple technologies

Kendrion Kuhnke Automation not only offers a long experience and a profound expertise in fluid technology, with solenoid technology and control technology we make universal and self-reliant solutions possible.

...we offer customised solutions

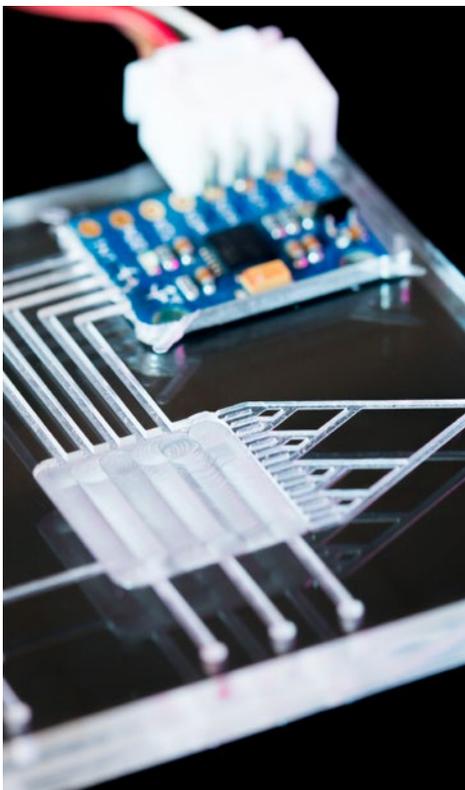
A unique standard portfolio can be created with a broad standard portfolio including for example micro solenoid valves or pressure regulators. On request, our assemblies can be adapted for aggressive media by a specific choice of materials.

...we plug and flow

Kuhnke modules enable an easy integration into the end device and an immediate implementation which can save valuable time in different industries such as machine building or medical and analysis devices.

...we have low energy consumption

With components with voltage reduction for AirBoard® and FluidBoard® Kendrion Kuhnke establishes solutions with an extremely low power consumption to fulfill the high requirements for example regarding mobile applications in point-of-care diagnostics.



When integrated solutions are requested

Plug-and-Flow for process automation

AirBoard® and FluidBoard® are systems which combine control electronics with fluid technology and sensors whereas conventional sub plates have a separate PCB.

The sub plates are customised based upon the requirements and necessary functions of the client and offer a flow optimised channel structure.

Product solutions with AirBoard® and FluidBoard® can be developed for diverse applications while using a broad standard product portfolio. Pressure regulators, micro solenoid valves, sensors and proportional valves can be easily integrated in the AirBoard® and FluidBoard®.

	AirBoard®	FluidBoard®
Operating pressure	Standard: Vacuum up to 2.5 bar (higher pressure on request)	
Burst pressure	up to 10 bar	
Voltage	Standard: 24 V DC (other voltages on request)	
Channel diameter	approx. 2.5 mm ²	flexible
Ambient temperature	0...+50 °C (other temperatures on request)	
Media	Standard: Air, Water (other media on request)	Aggressive and neutral media on request
Material	FR4 (PCB)	e.g. PA, PEEK, POM, PPSU
Functions	2/2-way valve, 3/2-way valve, proportional valves, pressure regulators, sensors	

AirBoard®

The multilayered PCB is produced from chemically and mechanically resistant FR4. It combines the pneumatic and electronic components. By integrating smart electronics in the AirBoard®, it is also suitable for complex piloting tasks. In addition, electronic SMD or THT parts and pneumatic components can be assembled either on top or underneath the AirBoard®.



FluidBoard®

The FluidBoard® is produced from laser welded plastic plates and makes a cost efficient combination of electronics and fluid technology possible. Due to a diverse choice of plastics, the FluidBoard® can be used for several (also aggressive) media. Furthermore, simple electronic parts can be integrated on the sub plate due to conductivity paths on the FluidBoard®.



Technical advantages of our sub plate technology

- Cost efficient
- Light and compact
- Integrable
- Cable-free
- Customised





WE MAGNETISE THE WORLD

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