In January 2010 Convergence was founded as a spin-off company from Twente University (NL). Ever since, Convergence specialized in the design and manufacturing of a wide range of customized liquid and gas handling systems for laboratory and industry purposes.

Designing and building an automatic measurement and control system is a difficult and time consuming process. Therefore, Convergence handles the whole process of designing, building, testing and finally the delivery and installation of your customized system. This approach will help you to get straight to work on your research topic and focus purely on what you do best: performing research!

Quality, customer satisfaction and innovation have been important values during the development of Convergence. In 2014 the company was rewarded for the ongoing dedication and commitment, Convergence was certified to ISO 9001:2008.

Convergence has the mission to be Triple A in improving research and handling fluids:
- Accurate
- Automatic
- Awesome

The modern and user-friendly design of Convergence’s systems, combined with an excellent support and product training makes working with a measurement and control system reliable, easy and efficient.
**Customized & user-friendly systems**
From the first generation systems onwards, the focus at Convergence has been very much on making testing more user-friendly, more efficient and fun! User-friendly systems and software, high quality and customization of every machine have become key features and distinguishes Convergence products from other products in the market.

**Proactive collaboration**
The ultimate system for any specific application can be made by ensuring a close collaboration. By listening to your needs and expectations, Convergence maps out the initial idea onto a concrete flowsheet. Doing so, Convergence will share experience and knowledge when selecting components and designing your customized system.

**High Quality**
Thanks to the extensive knowledge and resources in the area of membrane characterization, Convergence is able to create almost unlimited types of systems that fit perfectly in any research application. This requires specific component know-how. In close collaboration with you, Convergence selects only the best components, which will result in a reliable system of high quality.

**Corporate Social Responsibility**
Corporate Social Responsibility is an important part of our corporate culture. Convergence is committed to sustainability and therefore wants to take its responsibility towards society, employees and the environment.
Our Businesses

Convergence offers systems for several purposes, such as: Research, Quality Control and Industrial Dosing, with a specialization in membrane technology. Based on your specific requirements, Convergence can design and develop a fully customized system on request.

**MF/UF/MBR - Hydra**
The bench top membrane characterization systems for low pressure are ideal for quick studies on membrane performance. The systems are suited for fouling experiments, permeability tests, cleaning and backwash efficiency tests and more. These all-round membrane characterization systems are equipped with Coriolis Mass Flowmeters: the most accurate and fluid independent flowmeter available on the market.

**Forward Osmosis and Dialysis**
For applications such as forward osmosis or dialysis, Convergence has developed systems with dual circulation loops. Dialysis systems can be equipped with in-line UV-VIS or refractive index measurement systems for retention and diffusion measurements. When working with blood plasma, hygienic layout with disposable tubing is possible.

**Gas - Neptunus**
To evaluate single and mixed gases, Convergence developed customized gas mixing and gas permeation systems. These systems can control any gas mixture at user required pressures and flows. Evaporator units (heating up to 300°C) and integrated GC’s for composition analysis are optional. The gas independent Coriolis Mass Flowmeters accurately measures the mass flow of any gas mixture.

**NF/RO - Titan/Colossus**
The Convergence Inspector Colossus has been developed to evaluate the performance of NF or RO membranes. The system can be customized up to a maximum pressure of 125 bar and works with most liquids. Corrosion resistant options such as Hastelloy are possible. In-line chemical dosing, backwash options, heating or other custom options are available.
SDI/MFI
The world-wide used ASTM standardized SDI (Silt Density Index) is a simple and cheap test to determine the fouling potential of water. The portable Convergence Inspector SDI/MFI is fully automated and equipped with a flowmeter, pump, pressure sensor, a temperature sensor and a battery. Next to SDI the inspector also measures the normalized SDI and MFI (Modified Fouling Index), which is a more reliable alternative.

MFS - Minos
The membrane fouling simulator was developed to quickly evaluate biofouling growth in reverse osmosis systems. It consists of a small cell with a RO membrane and spacer. The system measures the pressure drop profile over time, which will increase due to biofouling. The MFS is an easy, reliable and cheap measurement to compare biofouling potential of different waters or membrane/spacer configurations.

Industrial Dosing
Convergence developed a highly accurate custom low-flow dosing system for additive dosing, blister filling in food/pharma applications. For applications where ultra-low flows are required (0.1 g/hr) or where highly precise dosing is a plus, the Convergence dosing skids are ideal. Custom engineered according to customer needs. ATEX or GMP options are possible.
Leak Tester
Customized (portable) leak testers are ideal for quality testing of membrane modules. Simple systems consist of a pressure decay measurement, while it is also possible to measure the flow to keep a set pressure constant for more advanced systems. Integration with flow curve testers is possible.

Flow-Curve Tester
For testing parts in for example the car industry, the use of flow curve testers (liquid or gas) is an ideal measurement. Convergence designs and builds these units for any flow/pressure range. The systems are suited for quality control purposes with a more restricted user interface or R&D applications with a flexible programming interface.

Maintenance & Recalibration
To ensure the quality of the experimental obtained results, Convergence offers annual recalibration and maintenance for your system.

Membranes & Modules
Next to flat cells or other test objects, Convergence also offers different types of membrane modules. Convergence offers the service to cut, pot and test membranes in these modules.

Software Design
Convergence can design software for your pilot or test setup. With the researcher in the back of our minds, we develop the software so data acquisition is done with the right accuracy and timing and saved data can be easily worked with. Most of our software is accompanied with auto-PDF report functions for easy comparison of experimental results.

Customized test object
Convergence Inspectors are designed to work with many different types of test objects. Dependent on the research topic, special tools may be needed to test or characterize your object. Convergence has academic experience in-house to design and validate custom test objects and can develop them on request.
Why Our Products

- Time saving in operation and development
- High quality
- Reliable and reproducible testing
- Fully automated and digital
- Highly accurate
- Compact design
- Service & Support

Increase research & production time with Convergence
The first Convergence Inspectors are based on long years of filtration experience at the University of Twente. In particular, the thesis of Wilbert van de Ven has been the basis for this product idea. With Felix Broens (chemical engineer) and Jonathan Bennink (Industrial Designer), we worked on making a table top filtration unit with a user friendly interface. At RWTH Aachen, we have three Convergence Inspectors. They run day and night. What else can I say ..

Bronkhorst has come to know Convergence as an experienced solution provider using their thermal and Coriolis mass flow instruments and dosing assemblies. When in 2012 a world leading company for personal- and home care products challenged Bronkhorst to come up with a solution to dose highly concentrated dyes into their products, Bronkhorst contacted Convergence for support. Thanks to a high level of actual knowledge, it was possible to design a new concept for dye-dosing on very short term. After this rapid prototyping, Convergence also succeeded in becoming a qualified supplier to Bronkhorst for production of these dosing units on larger scale.

I believe we were one of the first customer that bought an MF/UF unit from convergence. The equipment was developed according our needs and specifications. The first problems were solved with professionalism. People from Convergence did take very serious all our requests and comments, continuously improving their product from which our company could benefit. We are currently using the device for our research as well as customer support. As I mentioned often to Felix Broens, we are a satisfied customer that will be happy to recommend the company and the devices they build.
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