Achievements of today creates the future of tomorrow

NOVA SWISS® is active since more than 25 years in the creation of the future – with high pressure valves and products for the hydrogen industry. Continuous developments result in diversified use.

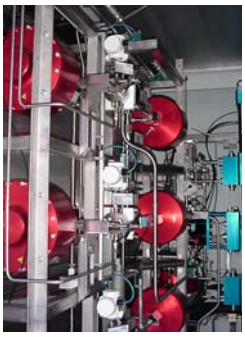
We all know that hydrogen is something special. Being the most abundant of all elements which exist in the universe does not automatically mean that the lightest gas is an easy task to handle. Until today, handling and storage of hydrogen requires special technologies. Thus, to find the best solution is a continuous task that is challenging research and development.

With the NOVA SWISS® trademark, Nova Werke AG develops and produces high-quality, standardized as well as customized high pressure components and systems for hydrogen in pressure ranges from 500 – 4000 bar as well as other fluid and gases in pressure ranges from 500 – 10000 bar.

For example, Nova Werke AG provides reliable technology for difficult conditions in hydrogen stations because it has excellent knowledge of materials, clean processing and last, but not least, extensive experience with the medium for more than 25 years. The latest technology of finite elements analysis as well as rational planning with CAD support for visualisation in early project phases guarantees well-conceived solutions.

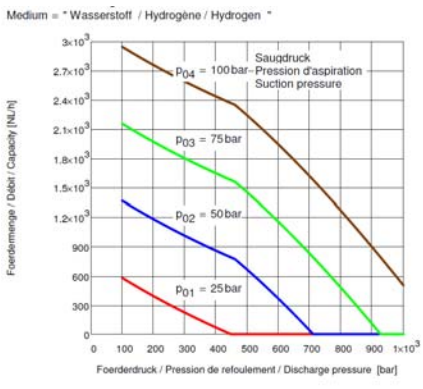
In the meantime it is a proven and standardized technology for Nova Werke AG. For instance, in hydrogen high pressure valves no O-rings are required anymore. The valves are leak-tight with metal to metal seals. NOVA SWISS® regulation valves can change the flow characteristics according to different pressures.

Installation of 1000 bar pneumatically driven valves in hydrogen stations



Another field of substantial research and development has been the diaphragm compressors for hydrogen. NOVA SWISS® diaphragm compressors for hydrogen are working for pressure ranges of up to 1000 bar as well as 3000 bar. They are electrically powered. The inlet pressure should be minimum 20 bar. Depending on this inlet pressure, the capacity and discharge pressure can be calculated accordingly. NOVA SWISS® diaphragm compressors also have capacities of up to 4 Nm^3/hour, which is the right size for R&D centres, universities as well as laboratories.

The advantage of the compact NOVA SWISS® diaphragm compressor is the cleanliness of the compressed hydrogen. There is no contact between gas and oil. In the gas chamber there are no non-metallic-elements, which means that operating with ultra-pure hydrogen is possible. Dynamic sealing problems are not possible because the piston is driven by cross head without additional gasket.



A compact diaphragm compressor, max. 3000 bar

Nova Werke AG is operating from its modern state-of-the-art facilities with latest in-house material labs in Effretikon near Zürich. Well-known companies active in the hydrogen industry, e.g. R&D Centres, universities, producers of hydrogen and other industries have trusted Nova Werke for many years and rely on a careful selection of materials and precise manufacturing.

NOVA SWISS® achievements of today do not mean that the end of development is reached. As a matter of fact, the next generation of NOVA SWISS® products for the hydrogen future is already in the pipeline.

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