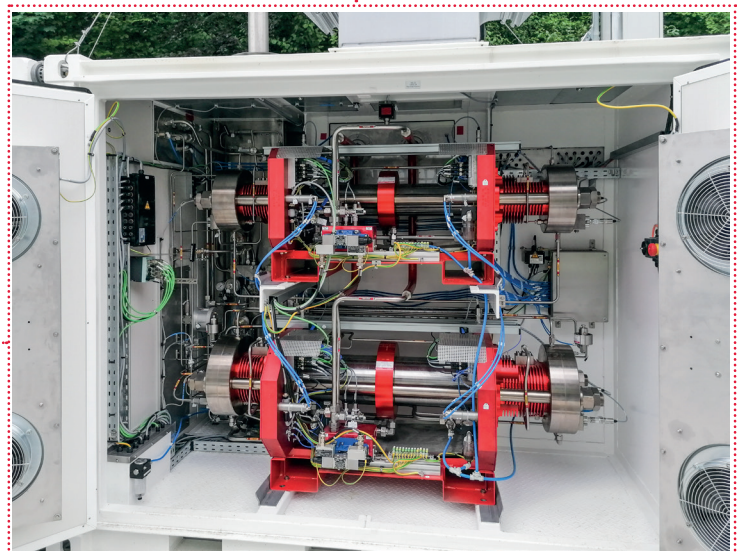
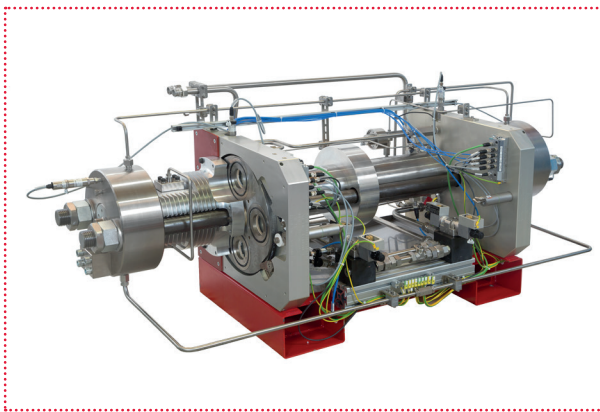


MAXIMATOR®

Maximum Pressure.

High Pressure Technology • Testing Equipment
Hydraulics • Pneumatics



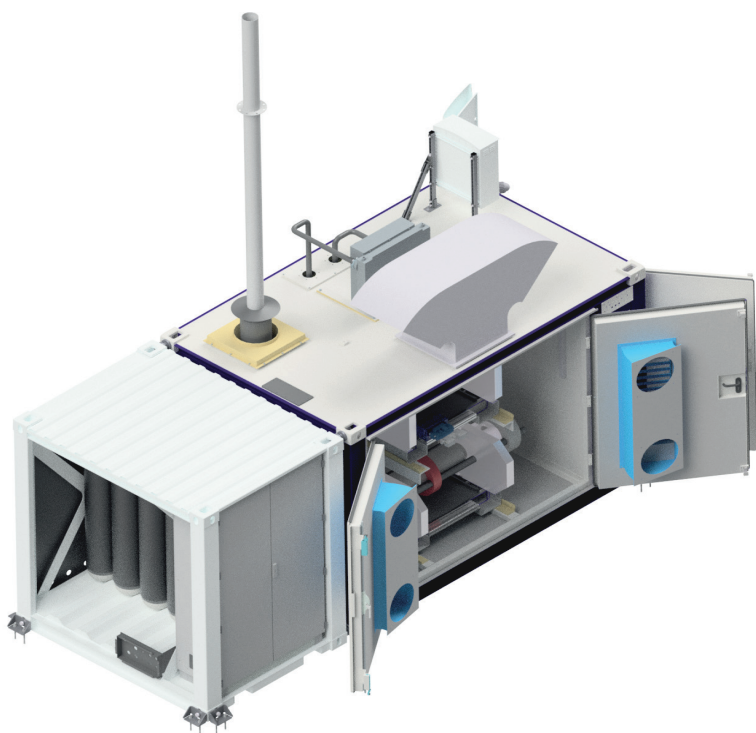
Hydrogen Refueling Station
» 350/700 bar for truck/bus/passenger car

» 350/700 bar hydrogen refueling station

Systems engineering

A refueling system basically consists of the supply unit (electrolysis, storage), a high-pressure compressor, high-pressure storage, a refrigeration system and the gas pump (dispenser). High-pressure compressors and accumulators are housed in a container. The other parts of the system are designed as stand-alone units.

The hydrogen can be delivered in gaseous form and stored on site or produced directly at the gas station using electrolysis. The supply storage is controlled by the **MAX-Flowtech** connection cabinet. The patented **MAX-Compression** (high pressure compressor) with the associated drive **MAX-Power** (hydro) takes over the pressure increase. After compression, the gas is filled in high-pressure storage. Before the vehicle is refueled, the gas is cooled to the required starting temperature by the **MAX-Chill** (refrigeration system). The vehicles are refueled according to their type (cars / trucks) on the side of the petrol pump intended for this purpose.



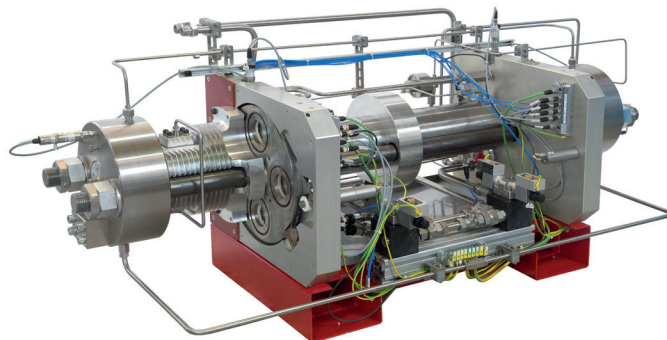
Technical data

System	
inlet pressure minimum	24 bar
outlet pressure maximum	900 bar
throughput maximum	82 kg/h on maximum inlet pressure
surround temperature	-20 °C up to +40 °C
air humidity	< 85 %
container dimension (lxwxh)	5.1 m x 2.2 m x 2.2 m
electrical connection	400 V / 50 Hz / 3 phases
connecting power maximum	120 kW
weight	12,000 kg
hydrogen quality	according to SAE J2719
High pressure storage 910 bar	
number of banks	maximum 3 pcs.
volume	750 l
operating pressure maximum	910 bar
Middle pressure storage 500 bar	
number of banks	maximum 2 pcs.
volume	2,340 l
operating pressure maximum	500 bar
dimension (lxwxh)	9.9 m x 1.1 m x 3.0 m
Cooling system	
dimension (lxwxh)	2.4 m x 1.7 m x 2.2 m
electrical connection	400 V / 50 Hz / 3 phases
connecting power	45 kW (included in 120 kW)
Dispenser	
design	Maximator
dimension (lxwxh)	1.1 m x 0.5 m x 2.5 m

» 350/700 bar hydrogen refueling station

Max-Compression

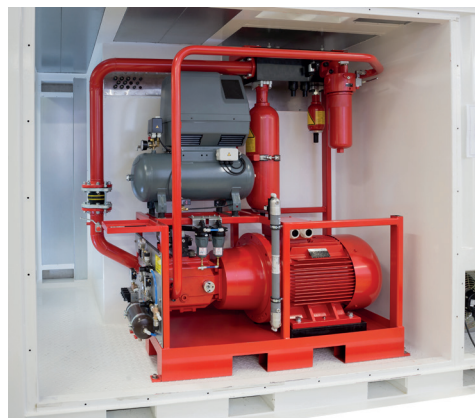
The patented MAX-Compression is a 2-stage, fluidically driven high-pressure piston compressor that compresses hydrogen from 24 bar to maximum 1,000 bar. It is equipped with the ASX function (automatic seal exchange), which ensures an automatic seal change of the hydrogen high pressure seal. This automatic change reduces unplanned downtime to a minimum. The seal change itself takes about 3 minutes per pressure converter. The system is a dry-running compressor system, so there is no possibility of contamination of the hydrogen to be refueled or the environment in the event of leakages.



Max-Power (hydro)

MAX-Power (hydro) is the associated drive for Max Compression, which can be operated with different fluids. It is equipped with a 55 KW electric motor including power control. Max Power is a semi-closed circuit that, combined with the power weighing process *, achieves an overall efficiency of almost 90%.

* Balance of forces between high pressure and drive unit



Max-Dispenser

The dispenser built in the Maximator design enables both types of vehicles (cars / trucks) to be refueled in the shortest possible time. It is equipped with a filling unit for cars (pressure range 700 bar) and a filling unit for trucks and buses (large volumes, pressure range 350 bar). The built-in valve and measurement technology was selected from the Maximators product portfolio. The dispenser is built and approved according to the relevant guidelines (OIML). The refueling process complies with the SAE J2601-2016 standard.



Produktfoto zeigt Dispenser in Pkw-Ausführung

Max-Service

As standard, the hydrogen refueling system is equipped with an extensive service and maintenance package. All safety and function-related inspections and tests are carried out at 6 different levels monthly to annually. For example, the equipment is checked for any leaks and, in addition to functional tests, wear parts are replaced. An experienced, multi-person service team of engineers and specialists is available to assist the plant operator with all matters.

Maximator - Expertise in hydrogen for over 20 years

Maximator is one of the leading companies that offers high pressure technology up to 25,000 bar. The standard air powered Maximator Boosters have been used in hydrogen applications for over 20 years. Hydrogen technology has been a key focus of the company since 2007. Maximator employs 700 people worldwide. The headquarters are in Nordhausen and include engineering and manufacturing. The entire product portfolio is manufactured in the Nordhausen plant to ensure that production is carried out using the latest technology and corresponding quality processes.

There are also branches in Shanghai, China and the USA which are responsible for the commissioning and field service of the plants located in these areas.

As the demand for hydrogen refueling facilities increases, Maximator plans to expand production to these locations. In order to meet the growing hydrogen business, Maximator Gas Solutions GmbH and the joint venture between Maximator & Testnet GmbH were also founded. Maximator Gas Solutions focuses on the development of storage systems and the required regulatory approvals. The joint venture with Testnet focuses on life cycle tests for hydrogen storage systems.

