

MAXIMATOR®
maximum pressure



**HIGH EFFICIENT HYDROGEN
COMPRESSOR SYSTEMS
UP TO 900 BAR - PLUG & BOOST**

WHAT IF YOUR H₂ COMPRESSION

- ✓ grows with your challenges and demands
- ✓ provides highest availability
- ✓ offers max. flexibility in terms of H₂ sources
- ✓ redefines the energy efficiency benchmarks in your industry

PIONEERING
MAINTENANCE
CONCEPT

TÜV, UL & CSA
CERTIFIED

MODULAR
DESIGN

SAFETY



PLUG &
BOOST

HIGH
ENERGY
EFFICIENCY

SMART
COOLING

SCALEABLE
COMPRESSION

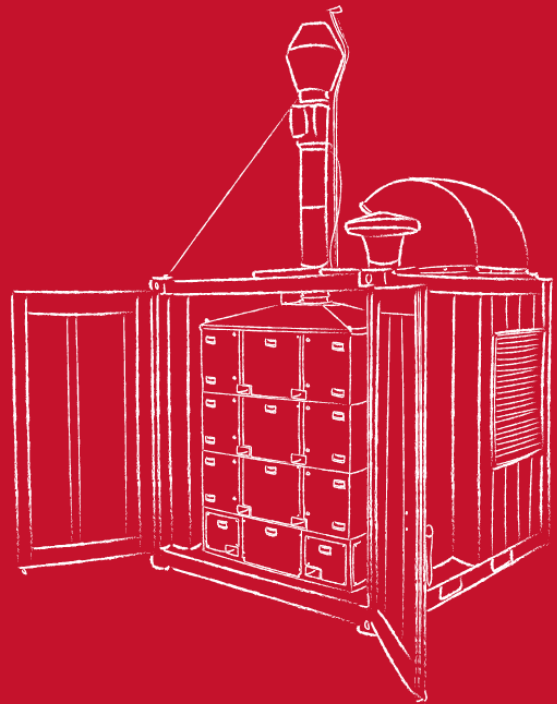
MAXIMUM
FLEXIBILITY

Welcome to the future of Hydrogen compression up to 900 bar



X-TOWER Solution for integrators

The Maximator X-TOWER is a modular Gas Compression System, specifically designed for Hydrogen compression up to 900 bar with scalable volume flow. The X-TOWER is designed for integration in existing systems and is covering nearly all requirements for efficient gas compression.



GFS / GFX Solution for operators

The Maximator GFS / GFX Series Systems are standalone Gas Filling Systems for small scale hydrogen applications. We designed the GFS product line especially for customers who need an “all in one” solution with a small foot print for hydrogen compression.

More flexibility than ever before

A standard configuration up to 900 bar consists of one MASTER-Module (control module) and up to three X-Modules (gas booster modules) - first stage module up to 270 bar, second stage module up to 540 bar and the final stage module up to 900 bar. This configuration will provide a gas outlet flow of up to 20 kg Hydrogen per hour. For higher outlet capacities more modules can be connected easily.

For lower inlet pressure (e.g. electrolyser) X-Modules are also available. Please get in touch with us for your detailed X-TOWER configuration.

The gas compression is realized with our new EHB-Series booster technology (Electro-Hydraulic-Booster) and provides unrivaled efficiency due to their completely redesigned electrohydraulic drive concept.

For all applications the MASTER-Module is mandatory and is handling safety and functional features for maximum three X-Modules. Depending on the application, the X-Modules can be combined and connected to each other in series and parallel*.

*Additional valve panel with controller required



FLEXIBILITY

With the X-TOWER you are planning the future. Our solution can be adapted to new challenges by changing, adding or removing X-Modules. The modular design allows many combinations of X-Modules to cover many different applications and requirements.



EFFICIENCY

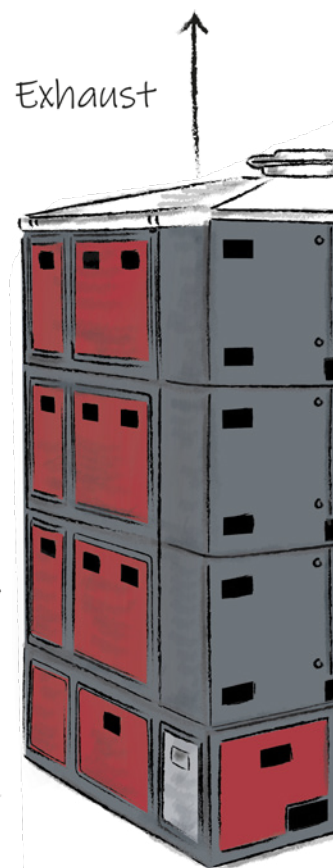
With the new frequency converter controlled completely closed hydraulic drive concept of our EHB-Series we are providing the most efficient way to compress gases.

- Efficient hydraulic drive with less oil volume
- Flushing concept integrated
- Quiet drive technology
- Power consumption monitoring

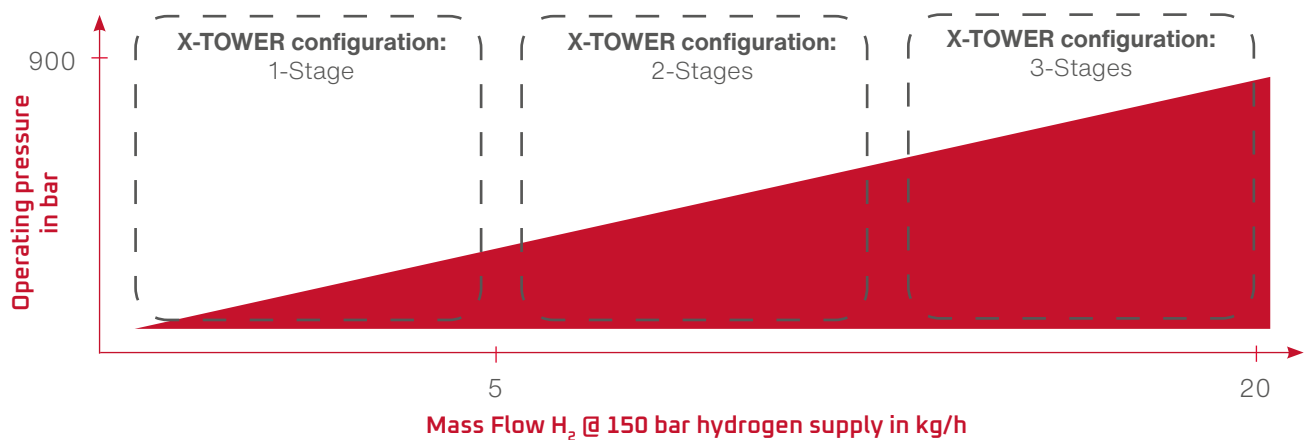


COOLING

Intelligent and efficient new cooling concept keep the gas temperature, the EHB and the electrical enclosures under control with minimum energy consumption.



X-TOWER



SAFETY

Purging, temperature & pressure control, gas detection, active ventilation (zone free), safety PLC are only some of our safety features of the new X-TOWER series. Safety tested and production monitored by third party organisation.



INTEGRABILITY

With reduced interface connection we are proud to say: „plug & boost“.

A web-based access to the control system offers independent control with your mobile PC or smartphone.

Our X-TOWER series is prepared for IoT integration to improve processes and provide more information about the compression process than ever before.

Easy integration in existing systems.



Hydrogen

Hydrogen

Nitrogen

Electrical power



AIR FLOW TOWER PURGE

With our revolutionary design concept of the forced ventilation and forced exhaust we make sure, that no explosive atmosphere can occur inside the X-TOWER.

Cost and energy efficient gas filling solution

With the new GFS technology, we are proud to introduce an efficient way of Hydrogen compression. The GFS solution is based on our X-TOWER (the heart of compression) with all the advantages.

The ready integration into a 10ft. container solution optimizes the overall availability of the Gas Filling System. The GFS is a plug & boost solution from Maximator which is covering all outdoor requirements from -20°C - +40°C. It is easy to load with fork lifter or crane on a standard truck.

The interface connection for the customer is reduced to a minimum of H₂ supply, H₂ outlet, N₂ supply and electrical power. All other modules for a safe and efficient compression are already integrated. A web-based access to the control system offers independent control with your mobile PC or smartphone.

In addition to our GFS Series, we also provide our GFX-version, which comes with an extra panel to switch the supply source from low to high pressure supply.



X-TOWER INSIDE

The Maximator X-TOWER is a modular Gas Compression System, specifically designed for Hydrogen compression up to 900 bar with scalable volume flow.

- Maximum flexibility
- Maximum efficiency
- Maximum safety

... than ever before.



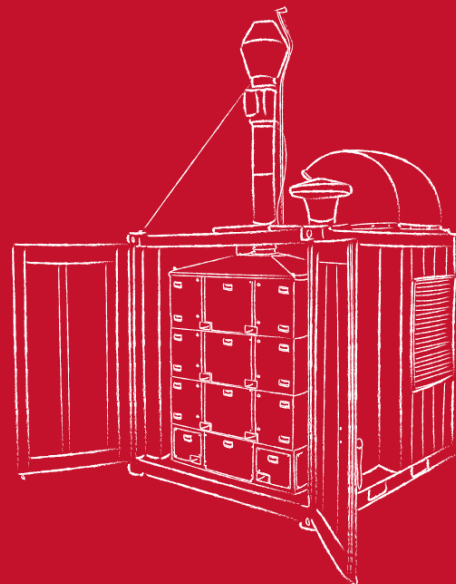
SAFETY

- Nitrogen purging
- Temperature control
- Pressure control
- Gas detection
- Forced ventilation
- Production monitored by third party organisation

... are only some of our safety features to increase the acceptance of operator and integrator.



Gas Filling System



WATER COOLING

Intelligent and efficient new cooling and tempering concept keep the GFS temperature under control. The GFS is having the chiller system on board. Cooling water temperature and flow are measured and supervised by the PLC.



SERVICE MEETS SUCCESS

Reducing of downtime is one of the biggest advantages for our Gas Filling System concept.

The modular design allows to change modules instead of maintaining components. Maximator is providing complete tested and certified modules to exchange the used module.

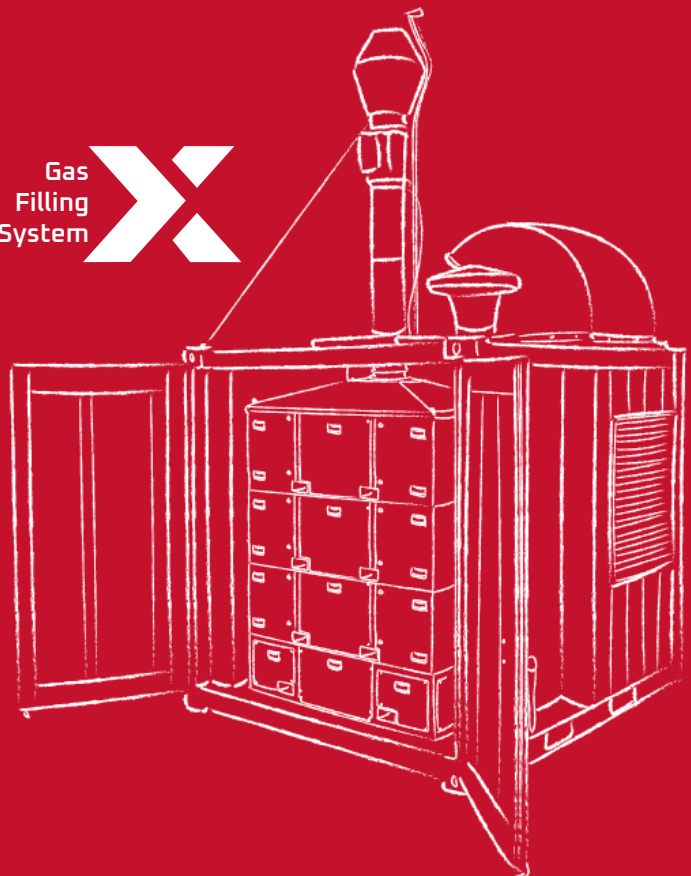
With standardized electrical and mechanical connection, the maintenance can be planned and realized in a short term.

EXAMPLE CONFIGURATION	1 STAGE SYSTEMS	2-STAGE SYSTEM	3-STAGE SYSTEM
Pressure class	270 bar	540 bar	900 bar
X-Modules	X15	X15 / X30	X15 / X30 / X45
Mass flow (H ₂)*	5 kg/h	10 kg/h	20 kg/h
Power consumption	25 kW	40 kW	55 kW
Dimension (LxWxH) in mm	3.000 x 2.450 x 5.400		
Weight	5.000 kg	5.500 kg	6.100 kg
Control System	Safety PLC + Web application		

X TOWER



Gas
Filling
System



MAXIMATOR GmbH

Lange Strasse 6, 99734 Nordhausen

Telephone +49 3631 9533 0

info@maximator.de

www.maximator.de

A COMPANY OF  **SCHMIDT
KRANZ GROUP**

3999.6296 | 02/2025