HCP 500

Hydrogen Compressor Package

Achieve high mass flow hydrogen compression

Learn more by visiting
www.hoerbiger.com/hcp
today!

HOERBIGER

HCP 500: Over a century of expertise in compression technology

Hydrogen is a key element of the green energy transition and will play a significant role in the decarbonization of industry and transportation. However, on this path, the necessary facilities must be scaled, industrialized, and optimized in terms of their total cost of ownership (TCO). Our technology already offers all of this today – safe, reliable, and cost-effective hydrogen compression for large-scale hydrogen applications, focusing on trailer filling and heavy-duty hydrogen refueling.

Transport and Storage

Regardless of the production method, the transport and storage of the molecule is a central issue for the future hydrogen economy. Our HCP 500 is designed to process hydrogen from various sources and allows for the filling of different storage media at varying pressure levels. The advantage is that the control system eHydroCOM precisely adjusts the compressor load to the changing operating conditions of the electrolyzer.

Typical sources / targets for the HCP 500:

- Electrolyzers
- Trailers
- Cascade storage tanks

Refueling

Heavy-duty refueling infrastructure will play an important role in the transition to emission-free commercial vehicles in the transportation sector. The HCP 500 addresses key points for future operators of refueling stations, such as short refueling times for large fleets and the possibilities of "direct filling".

Refueling of:

- Trucks
- Buses
- Trains
- Ferries

Use case	Pressure suction	Mass flow	Pressure discharge
Minimum	15 bar 217.5 psi	180 kg/h 76,177 scf/h	500 bar 7,250 psi
Design	25 bar 362.5 psi	250 kg/h 105,802 scf/h	500 bar 7,250 psi
Maximum	275 bar 3,988.5 psi	300 kg/h 126,962 scf/h	500 bar 7,250 psi

Your benefits at a glance

Features	Advantages	Benefits
High mass flows even at low suction pressure, starting from 15 bar / 217.5 psi	Continuously high mass flow	Less compressors
		Fast fill / short refill time
		Less buffer storage / high pressure
Utilization of the eHydroCOM, an Electric Stepless Capacity Control System	Stepless compressor capacity control (0 – 100%)	Process control and thus perfect adaptation to the fluctuating operating conditions of electrolyzers
	Favorable acquisition and operating costs compared to frequency converters or bypass controls	Energy-efficient compressor operation, resulting in cost savings, especially in partial load operation
Packaged turnkey solution with a high degree of standardization, professionally supported by a global service organization	"One stop shop" that covers installation to spare parts to maintenance – whole "scope" is covered	Increased compressor availability and efficiency
Compact design through upright recip compressor construction	Small Footprint	Good ratio of space requirements to delivery volume, leading to reduced costs and good integrability
Operational monitoring based on a digital twin with a high security standard	Maximize compressor operating window with real time limit adjustment, based on current operating conditions	Safe operation and increased uptime at low operating costs
Compressor components such as valves and sealing elements from the industry leader HOERBIGER	Development, industrialization, and product standards based on 100+ years of experience	High durability and availability

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Contact us for
more information!

Locally close to our customers – globally successful: HOERBIGER is active worldwide in 40 countries on all continents, with 6,477 employees at 130 locations – including 30 production plants – delivering reliable solutions for better performance, increased safety, and fewer emissions. In 2024, we generated sales of 1.466 billion Euros. For customers from the energy sector, the process industry, the automotive industry, the mechanical engineering industry, safety technology, and the electronics industry, HOERBIGER offers performance-defining products, and services that make the difference. With innovations for decarbonization and energy transition, HOERBIGER is already enabling change today for a better tomorrow. As majority shareholder, the HOERBIGER Foundation preserves the 130-year-old entrepreneurial heritage and guarantees stability, independence, and a future-oriented strategy.

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