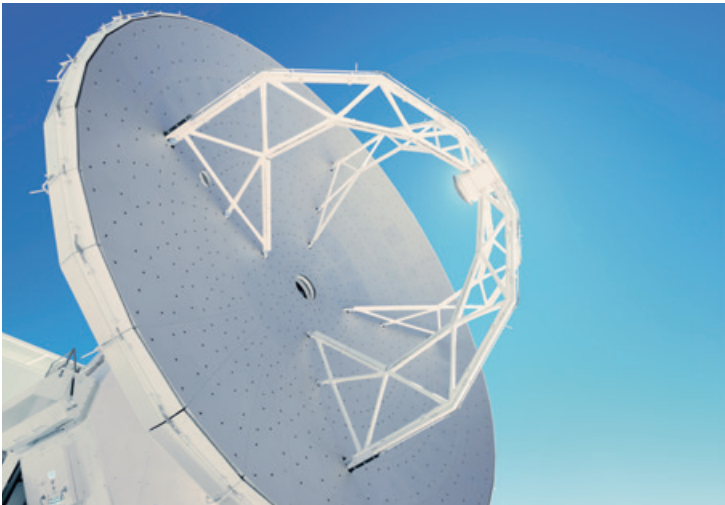


HELIUM RECOVERY

COMPRESSORS & SYSTEMS



INDUSTRY



ECONOMICAL AND SUSTAINABLE

WHY IS HELIUM RECOVERY SO IMPORTANT?

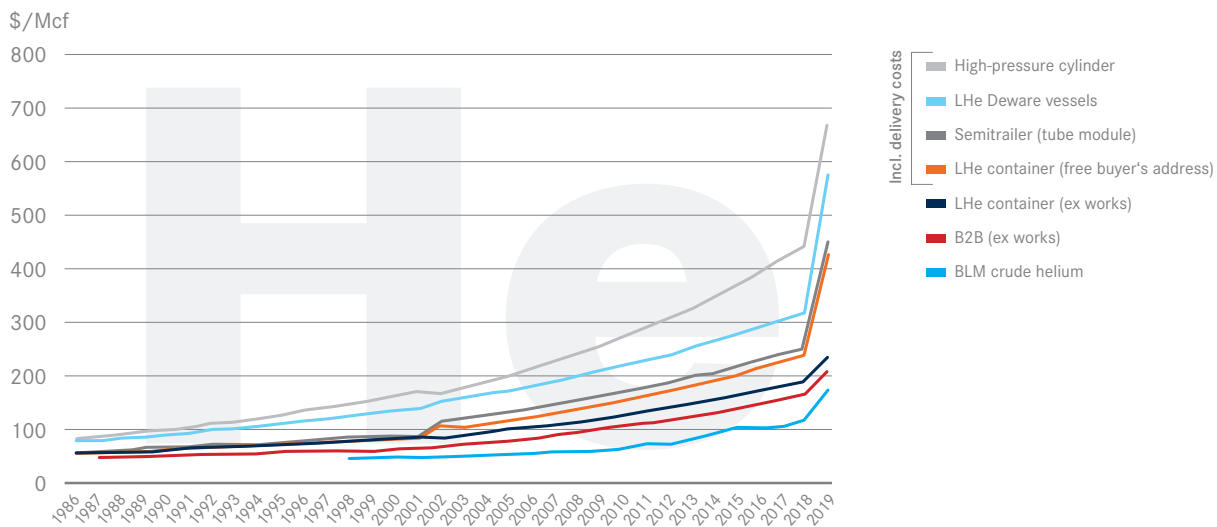
Helium has become a scarce commodity in recent years. At the current production rate, the supply of fresh helium is only enough to fill around 80 per cent of customer orders. Far from improving, this situation is likely to get worse over the long term.

There is only a limited number of helium-rich natural gas sources in the world from which the rare gas can be profitably extracted. In addition, the USA as the main supplier is planning to sell off its helium stocks by September 2021. Relatively new sources in locations such as Siberia are poorly served by logistics networks and can thus only be a partial replacement.

Prices for helium have soared in recent years. Frequent supply bottlenecks have led to medical facilities being prioritized for deliveries while research and commercial needs cannot be satisfied.

HELIUM PRICE TRENDS

Dramatic rise in helium prices over the past 20 years



Source: US & Global Helium Business Review 09-2019

For many years BAUER KOMPRESSOREN has been a supplier of high-quality gastight compressors for compressing rare gases. Our customers benefit from this exceptional wealth of experience and can rely on BAUER for top-class expertise. From individual installations to complete systems, BAUER provides the ideal support for your needs.

THE HELIUM SPECIALISTS

WIDE RANGING APPLICATIONS

- › Recovery systems for research institutions
- › Compressors and boosters with air treatment systems for gas filling companies
- › Helium recovery with mixed gas, including monitoring and fresh gas feed
- › Only the compressor and purification systems implemented by the customer are from BAUER KOMPRESSOREN; the remaining equipment is provided by the customer.



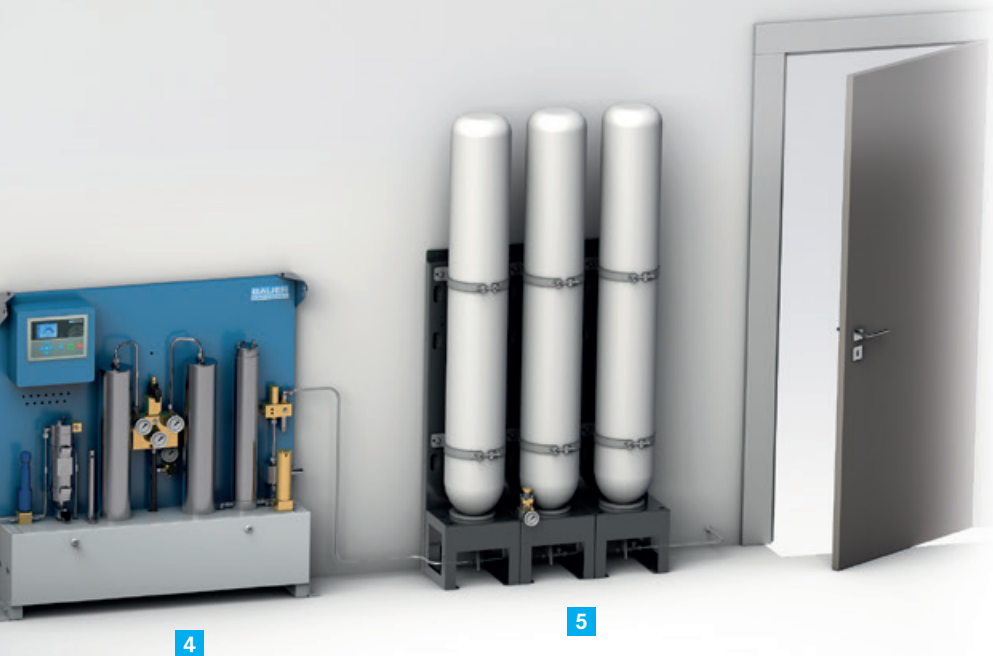
VERTICUS G series Helium Compressor with intake buffer tank and condensate reservoir, complete with all pipework, mounted on base frame

BENEFITS FOR OUR CUSTOMERS

- › One-stop source: cutting-edge compressors, control units, compressed air treatment, accessories and system configuration.
- › Bespoke turnkey solutions in line with customer specifications
- › Modular systems: can be expanded to take in up to five connected compressors, storage unit, balloon and further options
- › The BAUER G-series compressors have been specially optimised for operation with helium to ensure maximum tightness, minimum helium losses and optimum gas purity. The result is a leakage rate of less than 0.1 mbar l/s.
- › All compressors undergo 100 per cent testing in our test booths with multi-hour life tests at final pressure, including 3.1 acceptance test certification tightness tests can be performed with helium or forming gas as desired
- › Outstanding reliability both in 24/7 continuous operation and irregular operation
- › Long service life and guaranteed 25-year parts availability
- › Optimum customer and compressor support from 22 BAUER branches and over 600 service centres worldwide - on-site and online.

COMPLETE HELIUM RECOVERY SYSTEMS





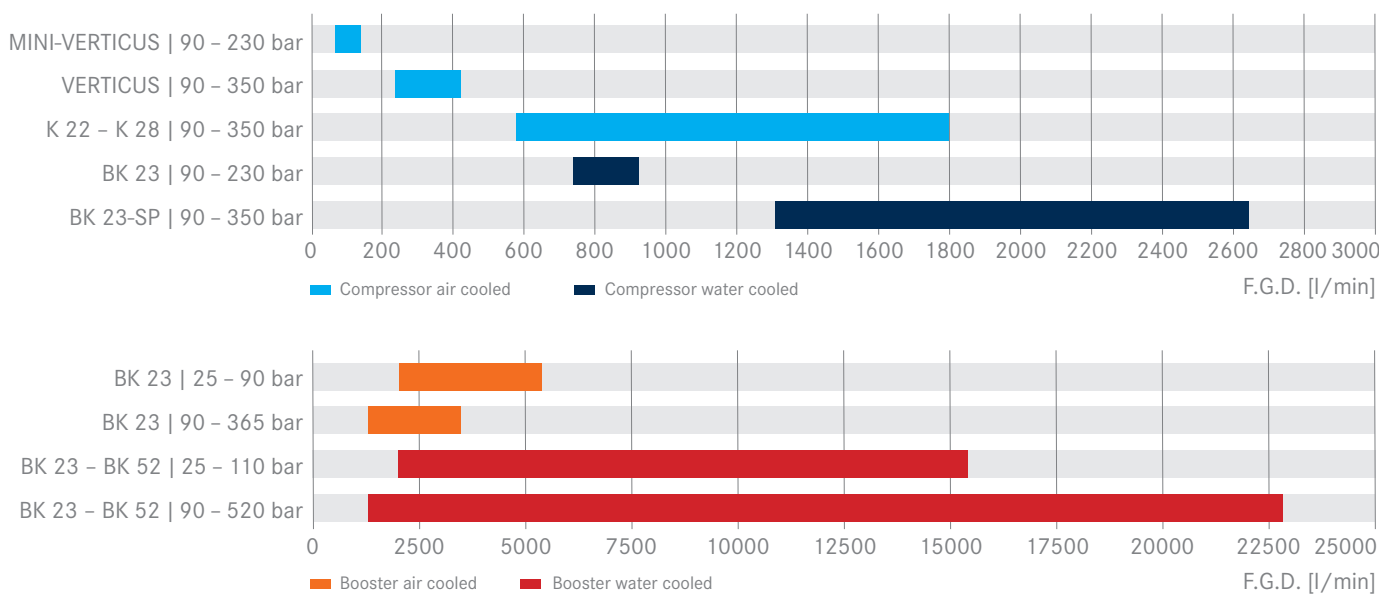
- 1 Helium balloon
- 2 BAUER helium compressor
- 3 B-CONTROL SUPERIOR control unit
- 4 SECCANT regeneration dryer
- 5 High-pressure storage system
- 6 Helium liquefier (generally in universities and scientific institutes)
- 7 Gas mixer (for feeding helium or gas mixtures in industrial applications)

PRODUCTS AND SERVICES

EXCELLENT COMPRESSOR SOLUTIONS FOR YOUR REQUIREMENTS

BAUER KOMPRESSOREN produces medium- and high-pressure compressors for air or gas compression, featuring state-of-the-art technology and outstanding quality.

We have built extensive expertise in development, production and application through decades of experience, and apply this knowledge to design solutions that are tailored precisely to your company's needs.



APPLICATIONS

TYPICAL USES OF HELIUM

- › Liquid cooling medium in various types of medical apparatus (e.g. MRI)
- › Liquid cooling medium for magnets in research institutes, e.g. particle accelerators (CERN or Daisy)
- › Protective gas in the semiconductor industry
- › Filling cold gas generators in airbag manufacturing
- › Recovery, gas quality monitoring and feed-in of leak gas in many leak tightness tests (e.g. injection pumps, gas regulators, coolant tanks, heat exchangers...)
- › Balloon gas
- › Gas filling plants
- › Heliox transfer and recovery

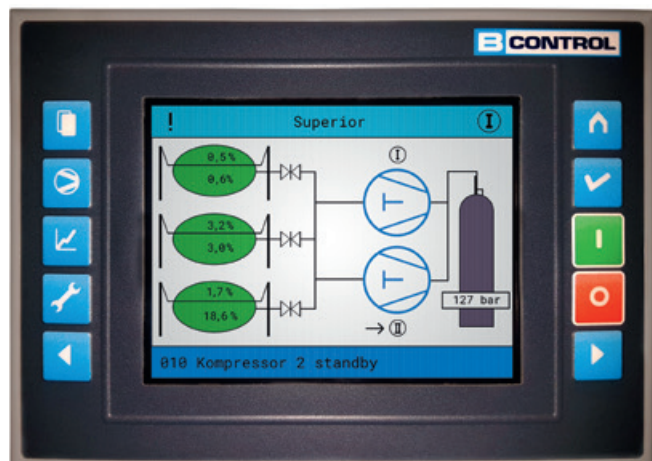
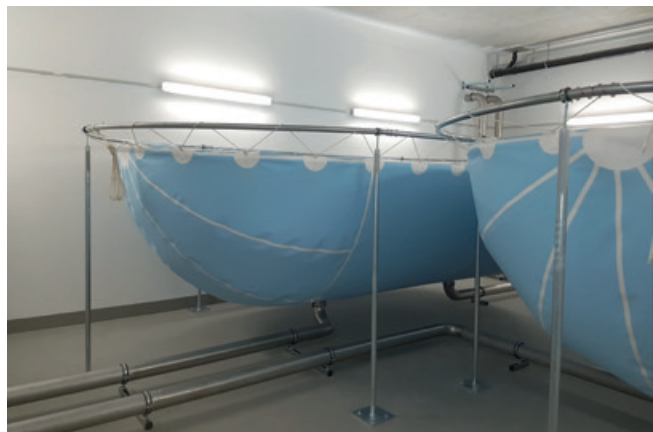


HELIUM RECOVERY

The BAUER helium recovery system in CHYN, the University of Hamburg's nanoresearch centre, began operations in 2017.

At CHYN, liquid helium is used to produce ultra-low temperatures for verifying research results. However, the helium that escapes during the measurement process is too valuable to allow it to simply dissipate.

BAUER KOMPRESSOREN's helium recovery system prevents this loss of helium. Two high-performance air-cooled GB 23.2 compressors, operated as an interconnected unit and centrally controlled by a B-CONTROL SUPERIOR control unit, compress the recovered helium to the required final pressure. Before the highly compressed helium is returned to the system, it is purified and dehumidified by two high-efficiency SECCANT 3AH regeneration dryers.





**INTERESTED IN OUR
PRODUCTS?**

**CONTACT US – WE ARE HAPPY TO
PROVIDE INFORMATION AND ASSISTANCE.**

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HELIUM EN
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Subject to technical change without notice