

bio-kmp

COMPRESSION TECHNOLOGY

bio-k^{recycle}mp



Behind every great project lies ...

...the power of exceptional **komponents**

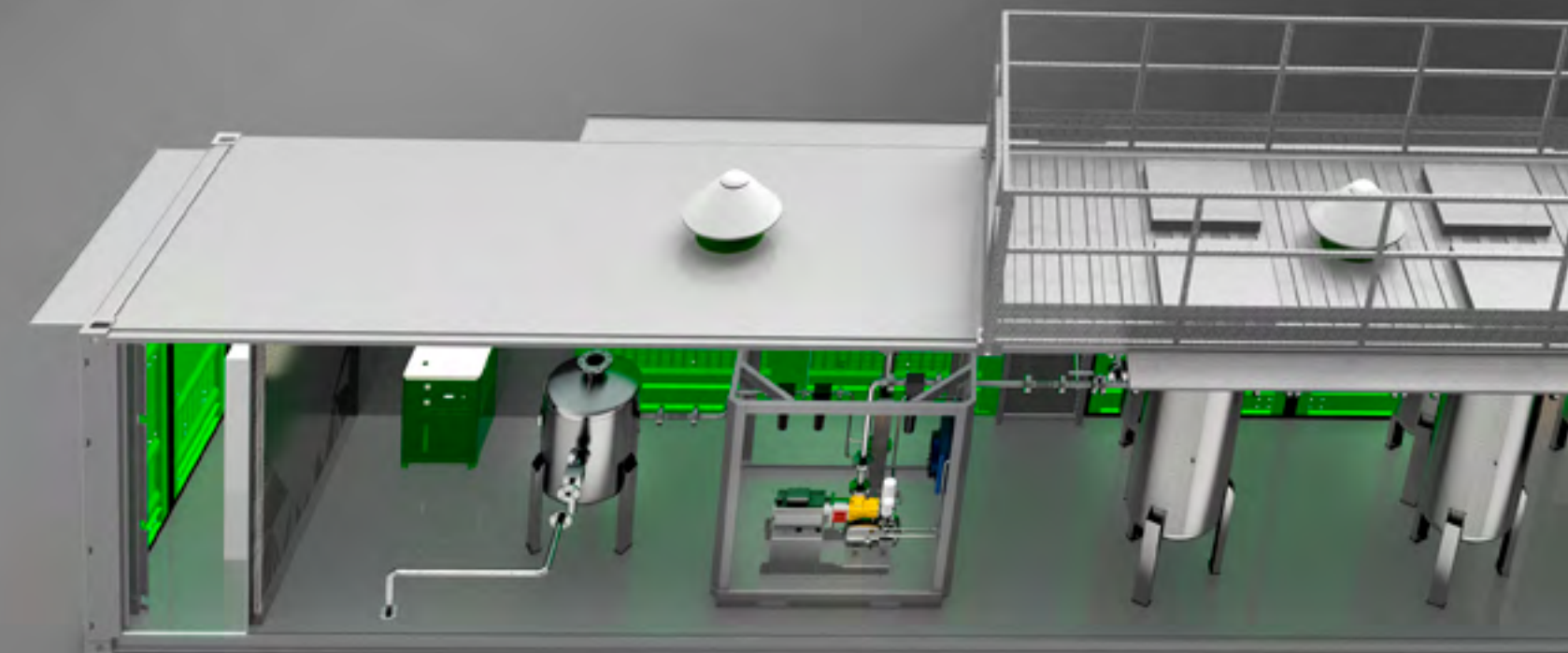
Biokomp supplied the fuel processing station to the first industrial Solid Oxide Fuel Cell CHP plant fed by biogas in Europe, derived from the sludge of the municipal Waste Water Treatment Plant (WWTP) in Collegno (Turin, IT).

This advanced unit includes a recovery station, a low pressure dehumidification skid, a special clean-up system for removal of contaminants (Sulfides, Siloxanes and VOC) and an oil-free compression skid with high pressure desiccant system.

As even imperceptible traces of the contaminants are fatal for the fuel cell, Biokomp adopted an ultra-purification adsorption system based on multiple adsorption beds with sophisticated carbons.

Technical features:

- Outlet pressure: 4 bar(g)
- Pressure fluctuation: < 0,01 bar/s
- H₂S content at discharge: < 0,03 ppm
- Siloxanes content at discharge: < 0,01 ppm
- Purification efficiency: > 99,999%
- Generated Power of the SOFC plant: 150 kW



WHO ARE We



BIO-KOMP

Biokomp was established in 2011 in the industrial district of Vicenza, in North-Eastern Italy. Starting from a solid experience gained in the compressor industry, we launched our activity aiming at the development of a cutting-edge solution for the gas compression, instead of replicating conventional air compression packages.

Combining several multidisciplinary skills, our team can engineer and manufacture different gas processing units based on blowers, centrifugal, rotary and alternative compressors. Our key strength is to assist the customer with a strategic support, each time tailoring the most efficient and convenient solution to the specific project needs.





PROJECT SUPPORT AND TECHNICAL HELPDESK

From the planning stage of your project, you can count on our knowledge and expertise to ensure that you have the right equipment for your gas processing solution. Our engineers are on your side to find the most convenient products, systems and services that address your needs.



REMOTE MONITORING

Biokomp systems are designed to let you remotely monitor and manage all operating controls over the Internet. Whether applied to power generation plants or to industrial process, the Remote Monitoring Software will ensure optimal performances, improved uptime and productivity.



REVAMPING & UPDATING

Modernizing and updating old equipment means implementing productivity and, at the same time, maintaining product certificates in line with norms to guarantee the highest possible level of safety for workers and reliability. When it's time for overhauling, we have the right expertise to get back your equipment to a new life.



COMMISSIONING & START-UP

Installation and commissioning of gas processing systems require engineering expertise and specialist advice. Biokomp engineers provide installation supervision, commissioning and start-up assistance to reduce your overhead, minimize risk and ensure your facility is ready to start operating.



AFTER-SALE ASSISTANCE

Only original spare parts ensure maximum durability and long-lasting efficiency of our equipment. Biokomp guarantees the quality of its products and undertakes to resolve any component or replacement part supplied with any anomaly.



SERVICE & REPAIR

Regular servicing prevents premature degrading, ensures minimum levels of power consumption and achieves the maximum performances of the plants. Biokomp can provide all levels of service and repair for our equipment – from Ordinary Maintenance contract, to Full Service contract, including stock of replacement parts and warranty extension.



TRAINING

Training and technical support from Biokomp includes operator coaching, service training and technical tutoring by our highly qualified engineers and technicians. Using these services, our customers can maximize their return on investment, achieving higher productivity through a reliable and safe operation.



CUSTOM DESIGN

Many times, standard machines don't fit special projects. That's why at Biokomp we can design and build custom machines for a wide variety of gas applications. Share your project details with us, and we will create a unique layout tailored to your specifications, including the use of special alloys, custom colors, special motors and much more.

WHY YOU ARE IN

SAFE HANDS

HOW WE WORK

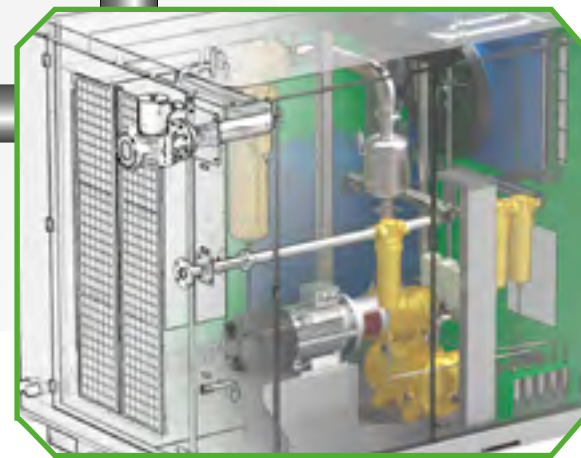
PRELIMINARY ANALYSIS

We don't believe in the "one-size-fits-all" approach. That's why we first listen to our customers and understand their needs, before submitting offers. Starting from the preliminary project analysis, we tailor flexible solutions and check with our customer that the technical proposal meets the requirements of the gas process



3D DESIGN

We always strive to deliver products and services that go beyond the standards. Therefore, we put extensive effort in the design phase of each new job and double check every detail before starting the manufacture. Layouts, P&I diagrams, technical datasheets and compliance certificates are rigorously controlled and stored in our archives for future reviews



PRODUCTION & TESTING

Supply the right product, to the right place, at the right time, and at the right price. To achieve this ambitious result, we have to deliver a quality product, basing on the following principles:

- Accurate control of the manufacturing process
- Continuous improvement achieved by pursuing an effective action program
- Training of internal and external personnel
- 100 % testing and inspection of the products before delivery



ON SITE CONTROL

Speed up installation and reduce risk with our Commissioning and Start-up team on hand directly at your site to ensure proper installation and placing of our products into service. Biokomp's team is able to provide the specific technical expertise necessary to establish the correct execution of civil and electrical works, and confirm safe and reliable operation of the plant, in accordance with the gas application.

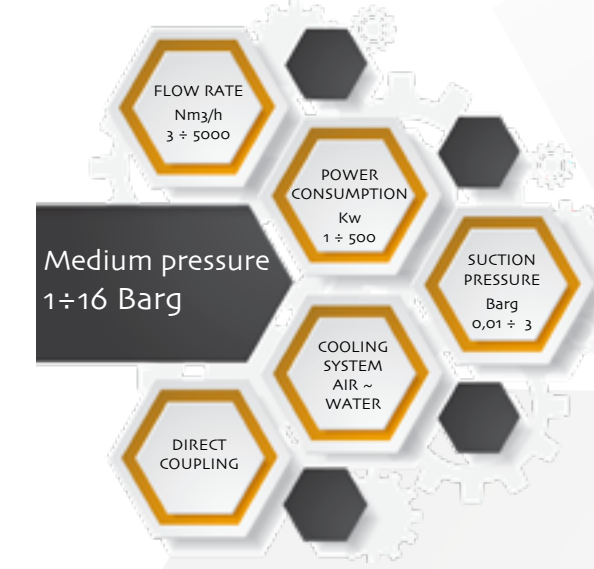
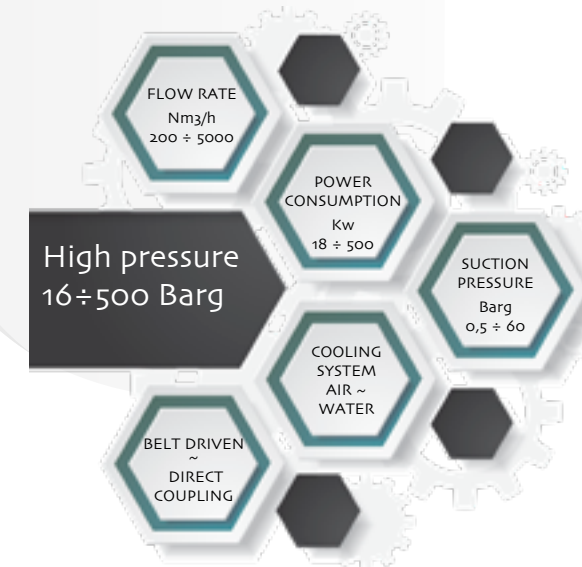
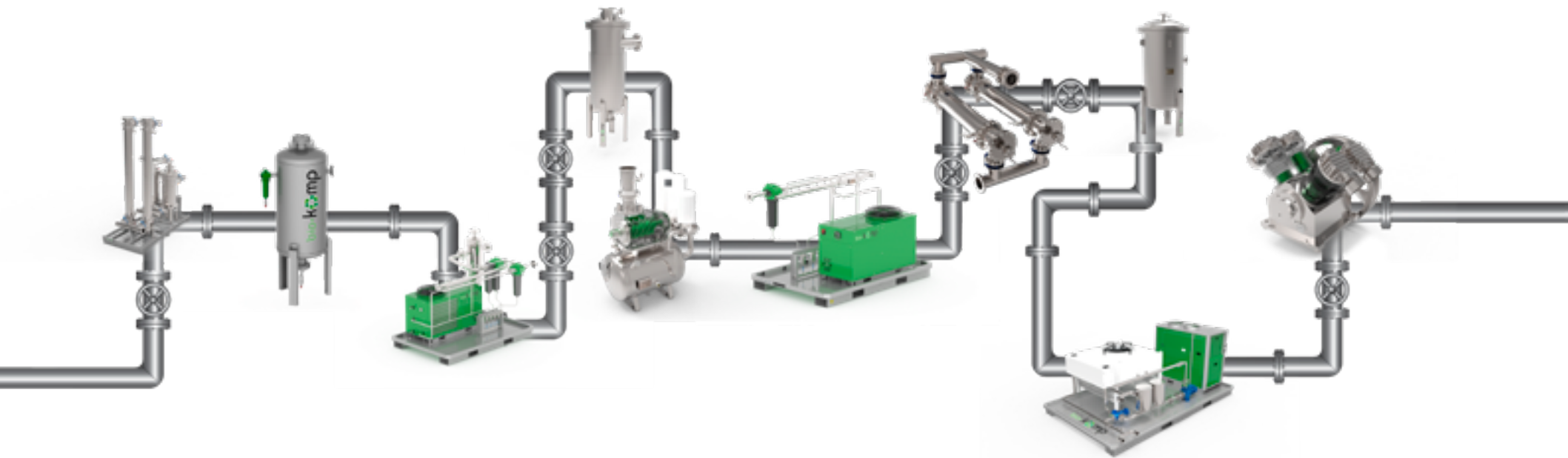


BIOMETHANE SOLUTIONS

BIOMETHANE
 Biogas Upgrading to Biomethane requires high efficiency and superior reliability in every single step of the process chain. Moreover, in all upgrading technologies the separation of minor impurities (Siloxanes, Sulfides, Volatile Organic Compounds, etc.) is necessary and represents a crucial operation.



Biokomp has developed a series of modern biogas treatment and compression systems that make use of several purification processes to supply a clean biogas to the CO₂ removal system. Our fully automated systems are characterized by energy-saving technologies, extended durability, and heat recovery options. Tailor-designed to fulfill multiple project requirements, Biokomp's Biomethane Units are factory-assembled, wired and factory pre-tested for fast on-site installation and immediate start-up, in order to keep pace with the stringent deadlines for subsidies deadlines of the upgrading projects.





NATURAL GAS SOLUTIONS

NATURAL GAS
 Biokomp Natural Gas compressors provide a safe, reliable source of compressed gas for power generation and other typical natural gas industry processes. Our CNG solutions are designed to operate 24/7 in many demanding applications including turbine fuel supply, wellhead gas recovery, and gas transfer.



Biokomp's NG compressors stand out thanks to their dependability, simplified maintenance, reduced operational costs and flexible packaging mounting options. Our goal is to deliver simple and efficient gas compressors to all power generation stakeholders, from project developers to construction firms, equipment providers and system integrators.





BIOGAS SOLUTIONS

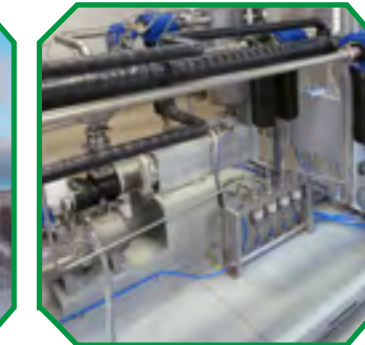
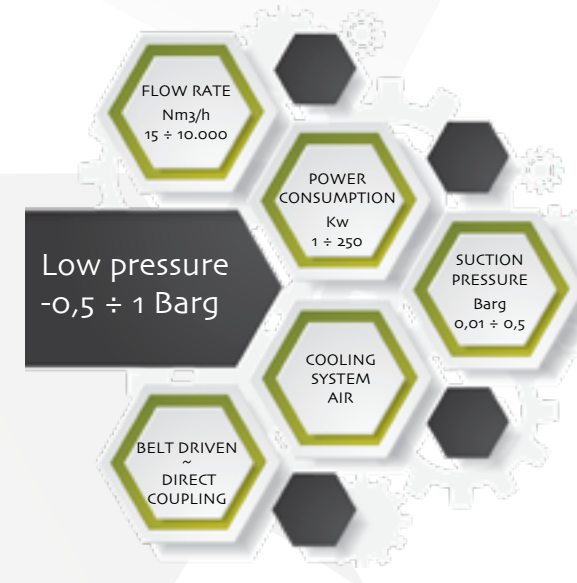
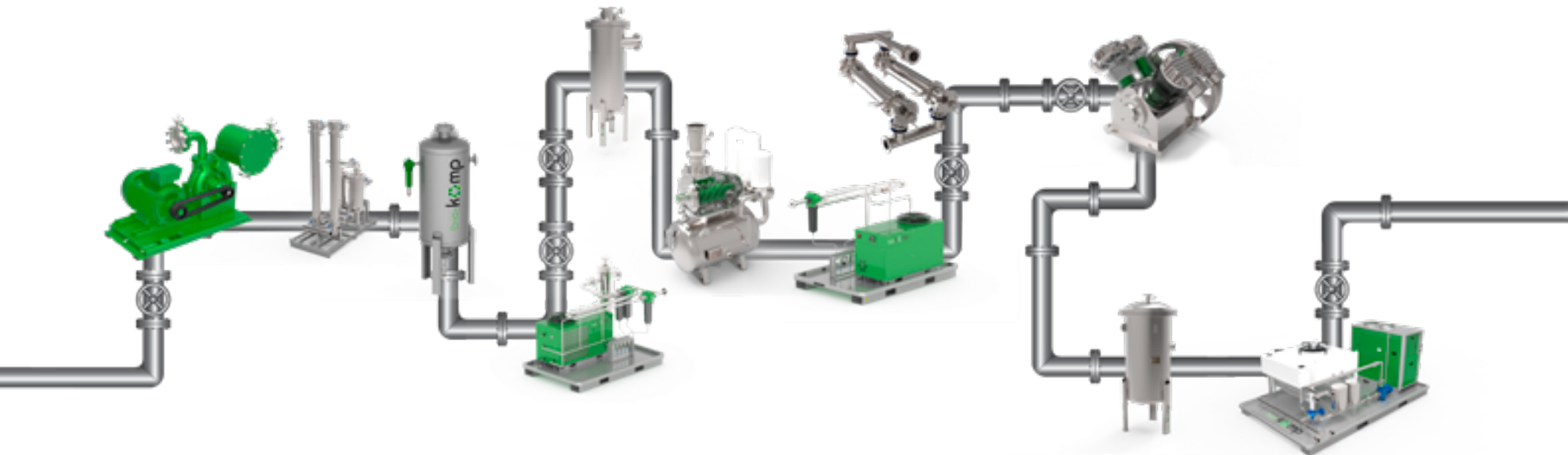
BIOGAS

Biokomp designs and manufactures complete Biogas Treatment Systems (Filter skids, Blower Skids, Compressor Skids, Chiller Skids) to process raw biogases from landfill, wastewater treatment plants, anaerobic digestion of agro-industrial wastes and organic fraction of municipal solid wastes.



Our gas processing systems meet each specific requirement of the biogas treatment, from dust removal and dehumidification to raw gas purification, boosting and gas conditioning. Biogas units range therefore from basic biogas extraction to turn-key systems for renewable energy projects.

Biokomp's compression units for Biogas use rotary screw gas-ends coupled with pre- and afterfiltration systems, air or watercooling, gas-refrigerant dryers or water-refrigerated chillers, and final activated carbon reactors or molecular sieves for ultrafine purification and deep oil removal for oil-free applications.

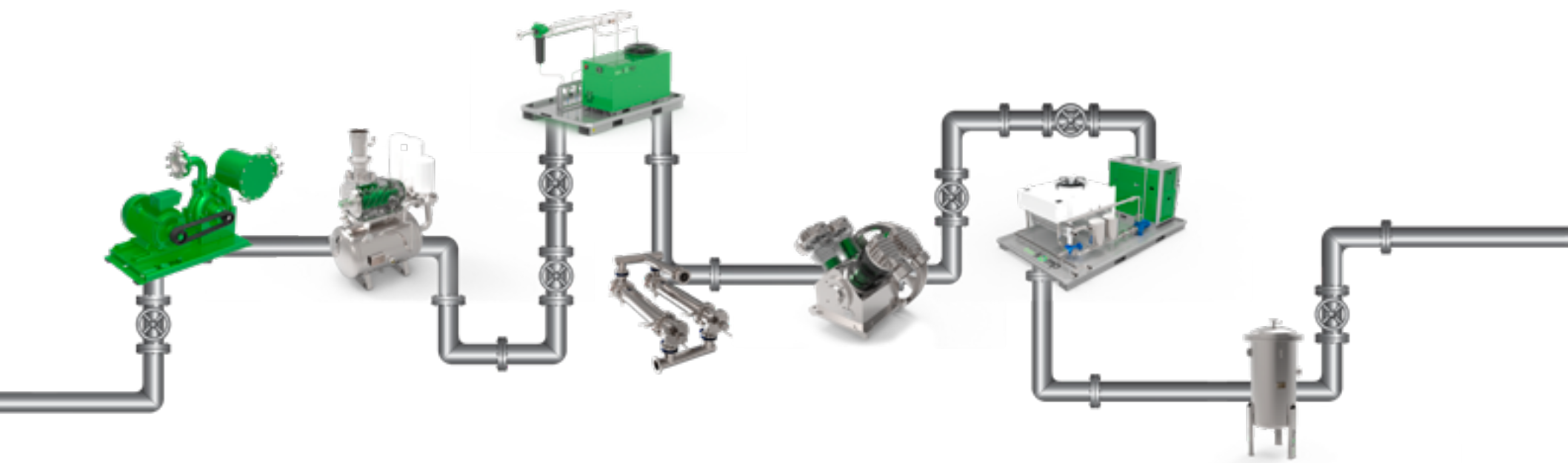




AIR
 Biokomp air compressors can be applied to a multitude of different uses, whenever there's a work to be done safely in difficult environments and hazardous areas. Our air compressors can be designed with vertical or horizontal air receivers, with different stages of oil filtration, dehumidifiers and moisture removal systems, and soundproofing canopies.



Biokomp can provide bespoke compressors designed to comply with the ATEX equipment Directive 2014/34/EU, and meet ATEX Zone 1 or Zone 2 requirements. The selection of the available models ranges from the low pressure air blowers for exhausting, aspirating, cooling, ventilating, conveying, to high pressure air piston compressors to supply heavy manufacturing facilities with constant and reliable air for plant operations.



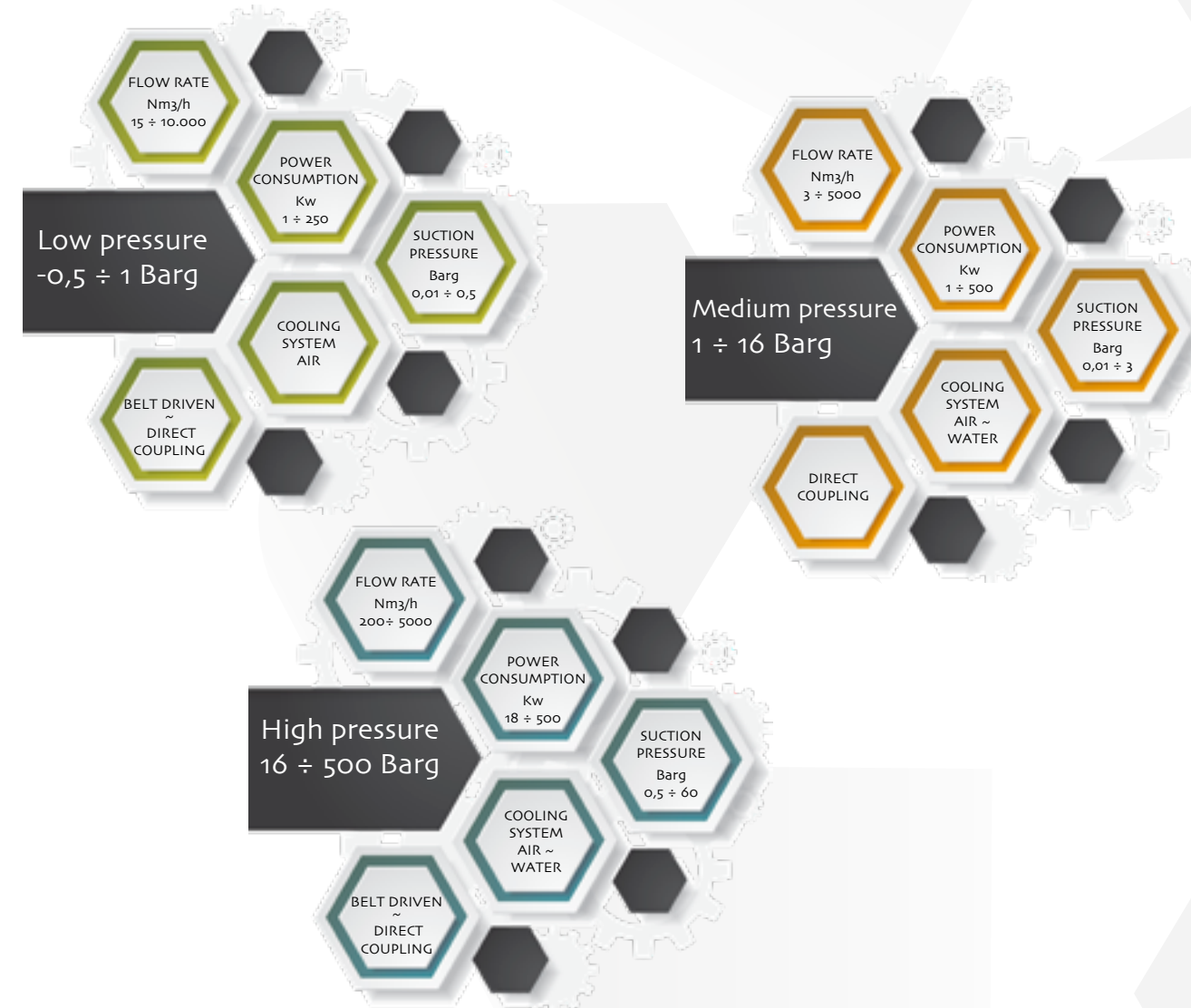
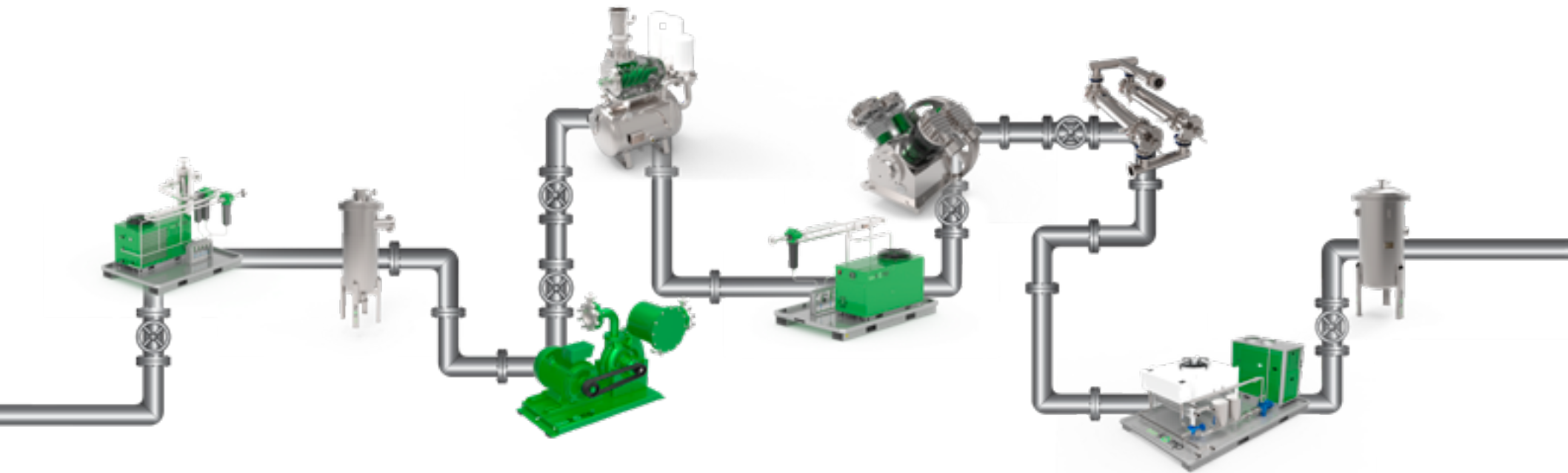
INDUSTRIAL GAS SOLUTIONS

INDUSTRIAL GAS

For the Industrial Gas market, Biokomp has been providing industrial compression solutions to the chemical/petrochemical, steelmaking, food & beverage, and automotive markets worldwide.



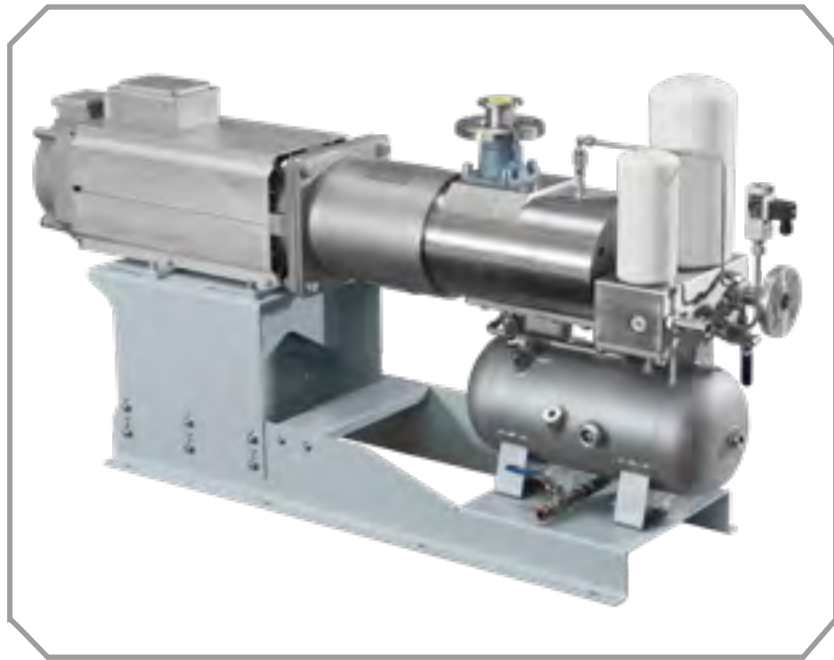
Wherever there's a need for a unique solution to very challenging applications, Biokomp's engineering team works hard with the customer to design, fabricate, test and commission out-of-the-ordinary products. From coke-oven gas boosters to heavy hydrocarbon compression systems, or low-density gas conditioning, Biokomp continuously strives to implement special compression projects, and exceed the expectations of the customers.



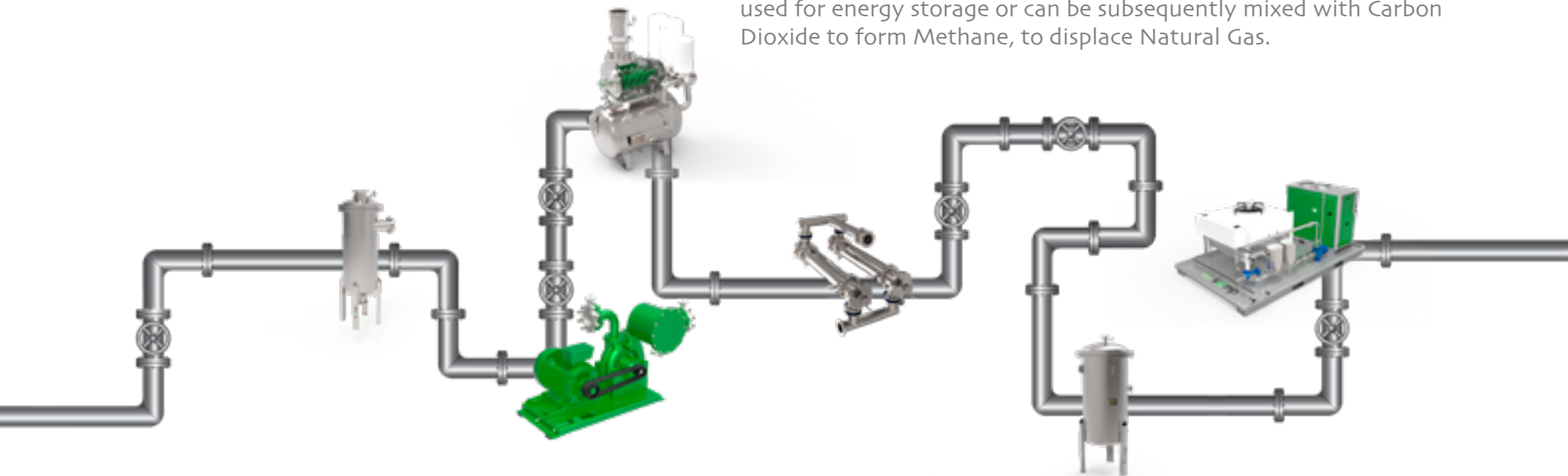


HYDROGEN SOLUTIONS

HYDROGEN
Biokomp has developed a brand new rotary screw block, specifically designed for Hydrogen applications. This block is entirely constructed of AISI 316L grade stainless steel, to grant higher strength and durability. The casing is fully CNC-machined from solid with precision tolerances in the 1/100 mm range.



The rotor shaft is directly connected to the motor with a magnetic coupling. This latest generation transmission eliminates oil leakages, transmission of vibrations, and servicing of coupling / shaft seal. State-of-the-art manufacturing and accurate selection of all details ensure maximum precision and high efficiency. The engineering team based the design of this gas-end on the principles of the HAZOP risk assessment technique and in conformity with the latest technical Standards to make sure the final product could be certified for ATEX ZONE 1. The Hydrogen compression block is currently employed in Power-to-Gas projects, where surplus renewable energy is converted into hydrogen by electrolysis. Hydrogen can be used for energy storage or can be subsequently mixed with Carbon Dioxide to form Methane, to displace Natural Gas.



FACTS

& FIGURES

2.750.000
TOTAL OPERATING
HOURS

14
DIFFERENT
APPLICATIONS



100%
CUSTOMER FOCUSED

27%
SAVED ENERGY

bio-komp

143
INSTALLATIONS
WORLDWIDE

8
"SMART"
TEAM MEMBERS

365
DAYS/YEAR
UNDER PRESSURE

CUSTOMERS

WHO HAVE TESTED OUR QUALITY





Stop feeling blue. Go green!

Customized solutions for unique projects.



bio-k^omp

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