



 **HYDROALP**

 **BM**[®]
GROUP

HYROPOWER

RENEWABLE GASES

SKID PACKAGE

www.hydroalp.com

ABOUT US

Hydroalp is an Italian company founded in 2015 that operates as an **EPC contractor** in the renewable energy sector. Thanks to a **multidisciplinary team** and solid experience

in managing complex construction sites, Hydroalp provides turnkey solutions covering the entire plant lifecycle, from design to installation and after-sales support.



Hydroalp: green technology from the heart of the Alps

The Alps, the beating heart of Europe, are Hydroalp's main source of inspiration. Here, **tradition**, **innovation**, and **respect for the environment** come together, values that guide the company's approach in developing sustainable energy solutions.

Hydroalp enhances natural resources through responsible and technologically advanced use of renewables, contributing to ecological transition and the development of mountain regions, with minimal environmental impact and a **forward-looking vision**.



Hydroalp: a BM Group company

Hydroalp is part of **BM Group**, an Italian industrial group driving technological transformation and energy transition for over 25 years through the construction of renewable energy plants.

Being part of the Group ensures Hydroalp **financial solidity, access to cross-sector expertise, and industrial synergies** that strengthen every project.



Mission

Leading the energy transformation through innovative solutions is Hydroalp's mission. With experience, expertise, and passion, we design and deliver renewable energy systems that maximize the value of every project.

Vision

Inspired by the beauty and strength of the Alps, and guided by its core values, sustainability, integrity, innovation, and collaboration, Hydroalp believes in renewable energy as a tool to build a sustainable future and contribute to a better world.

Hydroalp supporting the energy transition

Climate change and the need to reduce emissions are pushing the world toward a profound transformation: the **energy transition**. A global evolution that unites technology, digitalization, and sustainability to rethink how we produce, manage, and consume energy. In this context, the **Alps** symbolize balance between humans, the environment, and technology. For centuries, human ingenuity has integrated virtuous renewable energy systems into this region, especially hydropower, demon-

strating how nature and innovation can coexist. Rooted in Alpine values, **innovation, sustainability, and integration**, Hydroalp designs and builds renewable energy systems that contribute to a cleaner and more resilient future. With a clear mission and a vision inspired by the strength of nature, Hydroalp acts as a **technological partner** to face global energy challenges, optimizing resources and protecting the environment for future generations.



CERTIFICATIONS

Hydroalp operates according to the highest standards of quality, safety, and environmental protection, as demonstrated by the following certifications:

- UNI EN ISO 9001
- UNI EN ISO 14001
- UNI EN ISO 45001
- Politica del sistema di gestione integrato
- DNV - Manufacture of Welded Pressure Equipment, Class I & II. Welding of piping systems, Bureau Veritas Marine & Offshore - BV MODE II SCHEME
- ISO 9606 for personnel
- ISO 15614 for process



HYDROPOWER



HYDROALP: A REFERENCE POINT IN THE HYDROPOWER SECTOR

Hydroalp has established itself as a **leading company** in the European hydropower landscape, standing out for its **integrated approach**, advanced technology, and ability to cover the entire value chain, from design to plant commissioning.

Thanks to extensive know-how, a complete portfolio of solutions, and strong synergy with BM Group, Hydroalp also manages **complex projects**, directly handling civil engineering, electromechanical supply, and automation.

Water-to-wire: complete solutions, from intake to grid

The “Water-to-wire” operational model ensures full delivery of the **entire electromechanical system**, from water intake to energy production and distribution. This turnkey approach includes powerhouses, intakes, and all auxiliary systems, integrating engineering, manufacturing, installation, and commissioning.



Revamping and refurbishing: restoring the value of plants

Hydroalp specializes in the revamping and refurbishing of existing hydropower plants, offering solutions aimed at increasing **energy efficiency**, extending asset lifetime, and reducing maintenance costs. Interventions may involve turbines, control systems, automation, electrical systems, and mechanical structures, with the goal of upgrading plants to current technological standards and improving both environmental and operational performance.



Design and manufacturing of hydraulic turbines

Hydroalp **designs, manufactures, and installs customized hydraulic turbines** for every operating condition. The available technologies cover the full range:

- Pelton for high heads
- Francis for medium heads
- Kaplan for low heads and large flows

Each turbine is built with high-quality materials and cutting-edge construction techniques to ensure maximum efficiency, reliability, and long-term durability.

Scheduled and extraordinary maintenance

A plant is efficient only when properly maintained. Hydroalp provides **ordinary, extraordinary, and predictive maintenance** services through a specialized team able to respond quickly with tailored solutions. After-sales support includes inspections, component replacement, remote assistance, and software updates to ensure operational continuity and minimize downtimes.



Control and power systems

Hydroalp supplies complete **electrical solutions** for both power and control systems in hydropower plants. Electrical panels, protection systems, and grid interfaces are designed to guarantee safety, reliability, and easy operation. Solutions are modular and scalable, suitable for both new installations and revamping projects.

Automation: efficiency and advanced control

Automation systems developed by Hydroalp enable smart management of both new and existing plants. Solutions include PLC, HMI, SCADA, and centralized supervision systems, also compatible with remote monitoring technologies. Automation ensures precise regulation of operating parameters, reduces human intervention, and optimizes energy production.



Auxiliary systems: reliability in every detail

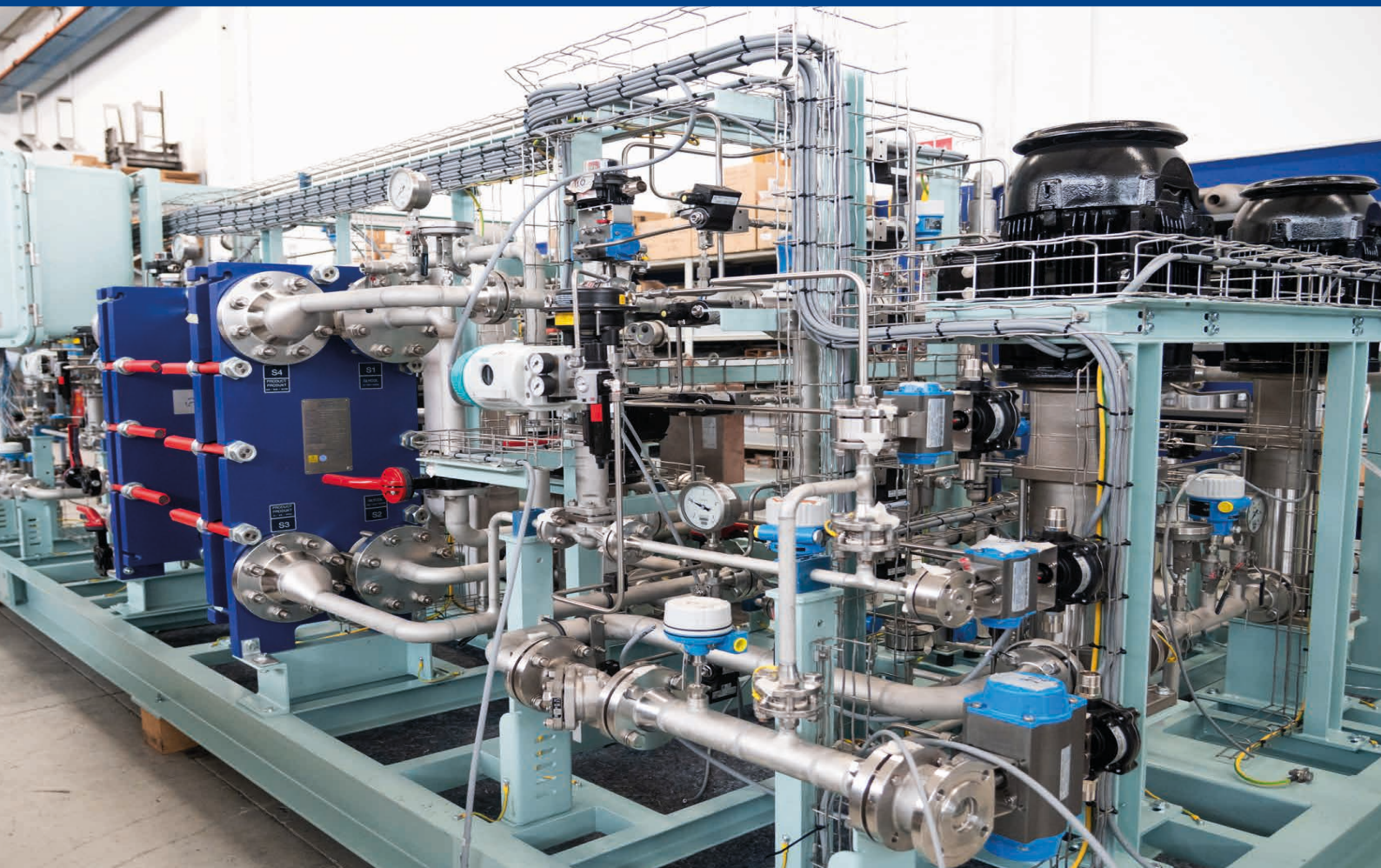
To ensure proper plant operation, Hydroalp provides a complete range of auxiliary systems, designed to integrate seamlessly with hydropower structures:

- Guard, bypass, needle, and air admission **valves**;
- **Gates** of various sizes and types;
- Fixed, movable, or chain-type **trash racks**;
- **Coanda** screens.





SKID PACKAGE SYSTEMS



MODULAR SKID SYSTEMS FOR FLUID MANAGEMENT

In recent years, Hydroalp has expanded its expertise to include the field of fluid management. Thanks to the strategic acquisition of Al.Fa. Impianti S.r.l., a company with over 30 years of experience in **manufacturing skid systems and welded components** for industrial plants, Hydroalp now designs and manufactures high-reliability modular skid systems for technically demanding sectors such as marine, oil &

gas, automotive, industrial machinery manufacturing, and energy. This new division enhances Hydroalp's offering, enabling the company to handle systems for the **treatment of fluids, technical gases, biofuels, and innovative fuels** such as biomethane, methanol, ammonia, and green hydrogen, further strengthening Hydroalp's role in the energy transition.

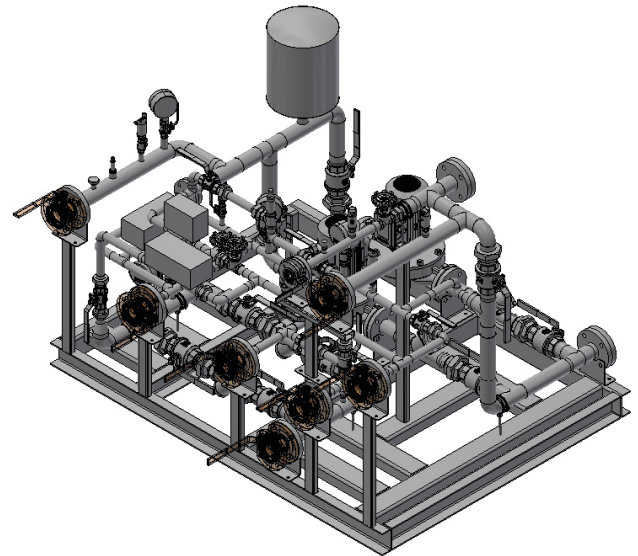


A 5-STAGE PROCESS

Hydroalp's modular skid systems are developed through a structured yet flexible process, ensuring high customization, fast installation, and maximum **quality** control.

1. Technical analysis and detailed engineering

- Collection of customer process requirements and specifications
- Analysis and definition of project parameters
- Study of dimensions and optimization of modular layout
- 3D design and development of technical documentation



2. Construction of structures and welded components

- Fabrication of support frames and load-bearing structures
- Production of certified pressure vessels and piping
- Non-destructive testing (NDT) and weld inspections according to ASME/EN standards

3. Mechanical and electro-instrumental assembly

- Installation of pumps, valves, heat exchangers, filters, and sensors
- Electrical wiring and installation of measuring instruments
- PLC integration and control system setup for automated operation





4 Functional testing and Factory Acceptance Test (FAT)

- Hydraulic and pneumatic tests on the plant
- Verification of logic sequences and safety systems
- Certification and validation of the plant according to customer standards

5. Installation, commissioning, and O&M

- Quick transport and on-site assembly thanks to modular design
- System start-up and operator training
- Operation & Maintenance services, including remote support, to ensure operational continuity



Applications are numerous and strategically relevant, particularly in emerging markets linked to alternative fuels and decarbonization technologies. Hydroalp's focus on quality, traceability, and regulatory compliance makes it a **reliable partner** even in the most demanding and regulated sectors.

Hydroalp's solutions are applied in several highly specialized strategic industries:

- **Oil & Gas**
- **Marine**
- **Energy**
- **Special plants for innovative fluids and gases**





RENEWABLE GASES



RENEWABLE GAS PRODUCTION SYSTEMS

Renewable gases represent key solutions for the decarbonization of industrial sectors, transport, and energy production. Today, Hydroalp is a leading **technological and execution partner** in the design and construction of plants for the production, storage, and management of renewable gases: **green hydrogen, biomethane, synthetic methane, green methanol, and sustainable aviation fuels (SAF)**.

Thanks to its capability to operate as an **EPC contractor** (Engineering, Procurement, Construction) in complex projects, Hydroalp manages all phases, from process design to Operation & Maintenance. This expertise also extends to the development of small-scale plug & play systems, ideal for safely and flexibly testing the impact of renewable gases in existing industrial processes.

“Turnkey” projects

Hydroalp manages the entire project life cycle. Thanks to a highly **qualified internal team** covering all areas, process engineering, plant design, site man-

agement, and after-sales service, Hydroalp ensures an **integrated and tailor-made approach**.



1. Engineering

- Feasibility study
- Preliminary offer based on energy needs
- Business plan
- Basic and detailed engineering

2. Procurement

- Preparation and management of the authorization phase (civil, electrical, environmental)
- Executive project development
- Project management



3. Construction

- Plant installation, grid connection, and coordination with distribution companies
- Continuous performance monitoring
- O&M

PLUG & PLAY SYSTEMS

To support companies aiming to gradually begin their energy transition, Hydroalp has developed a line of **compact plug & play modules**, ideal for:

- Testing hydrogen's impact within existing production processes
- Developing pilot or demonstration projects
- Carrying out experiments in controlled environments

These transportable, preassembled containerized systems allow for rapid installation, reducing commissioning time and costs.

H2ALP-120

H2ALP-120 is designed to produce hydrogen and oxygen through two 60 kW Piel electrolyzers operating in parallel, along with a demineralization system for process water treatment.

The unit is divided into two areas:

- Safe area: containing the electrical panel, demineralizer, and fire control unit
- Explosive area (ATEX - 3G IIC T1): containing two electrolyzers, a hydrogen drying system, process sensors, and the temperature control unit

A PLC supervises the system for signal remote control, alarm management, and high-level monitoring.



PLANT DATA

Dimensions	7000x2400x3500 (lxlxh)
Weight	9000 Kg
Temperature	-5/45°C
External buffer	Optional
Buffer volume	600 lt
Buffer dimensions	1020x775x2052 (lxlxh)
Buffer weight	2000 Kg

PERFORMANCE

H ₂ production	20Nm ³ /h
O ₂ production (optional)	10Nm ³ /h
Demineralized water production	30lt/h
Wastewater production	45lt/h
H ₂ pressure	8.2bar
O ₂ pressure	ATM
Power consumption	130kW

The ability to organize and integrate complex systems into industrial processes distinguishes Hydroalp as a key market player, turning reliable designs into fully operational solutions. These systems are used in **research and university** facilities, as well as in the **automotive and machinery** sectors.

SERVICE & O&M

The quality of a plant is also measured by the efficiency and responsiveness of its **after-sales service**. Hydroalp guarantees widespread and timely assistance across all regions, thanks to a network of specialized technicians always ready to intervene. Local presence ensures **rapid response and direct support**, essential to keeping plants efficient and high-performing over time.

Tailor-made contracts for every need

Hydroalp provides customized maintenance contracts tailored to each customer's specific requirements and plant type. These solutions include:

- 24/7 O&M
- Advanced monitoring and diagnostics
- Ordinary and extraordinary maintenance
- Decontamination interventions
- Technical and legal support

Advanced solutions for complete plant management

For customers requiring full-service management, Hydroalp offers an **integrated plant management** solution that includes remote continuous monitoring of all operational parameters, real-time event analysis, and immediate intervention in case of anomalies.

This **proactive approach** helps prevent malfunctions and minimize downtime. Moreover, Hydroalp ensures both ordinary and extraordinary maintenance of all equipment, guaranteeing long-term reliability and sustainable performance.

Hydroalp is not only a plant supplier, but a **trusted partner** supporting customers throughout the entire investment lifecycle, offering top-level after-sales service designed to protect and enhance every project.





**A MULTIDISCIPLINARY TEAM,
A RELIABLE TECHNOLOGICAL PARTNER**



INTEGRATED EXPERTISE AND COLLABORATION

Hydroalp's added value lies in its in-house integration of all key **competencies** required to develop green efficient plants:

- Process engineering
- Plant engineering
- Automation
- Site management
- Maintenance and O&M

Hydroalp continuously invests in **research and development** to maintain a competitive edge in the renewable energy sector. Through an innovative and proactive approach, the company tests new technologies, optimizes processes, and integrates cutting-edge solutions to enhance plant efficiency and sustainability.

Moreover, Hydroalp establishes **strategic partnerships** with universities, research centers, and leading technology companies, creating a collaborative ecosystem that fosters knowledge exchange and joint development of innovative projects. This network of collaborations enables Hydroalp to deliver customized, technologically advanced solutions backed by strong multidisciplinary know-how, ensuring excellence from engineering to maintenance.



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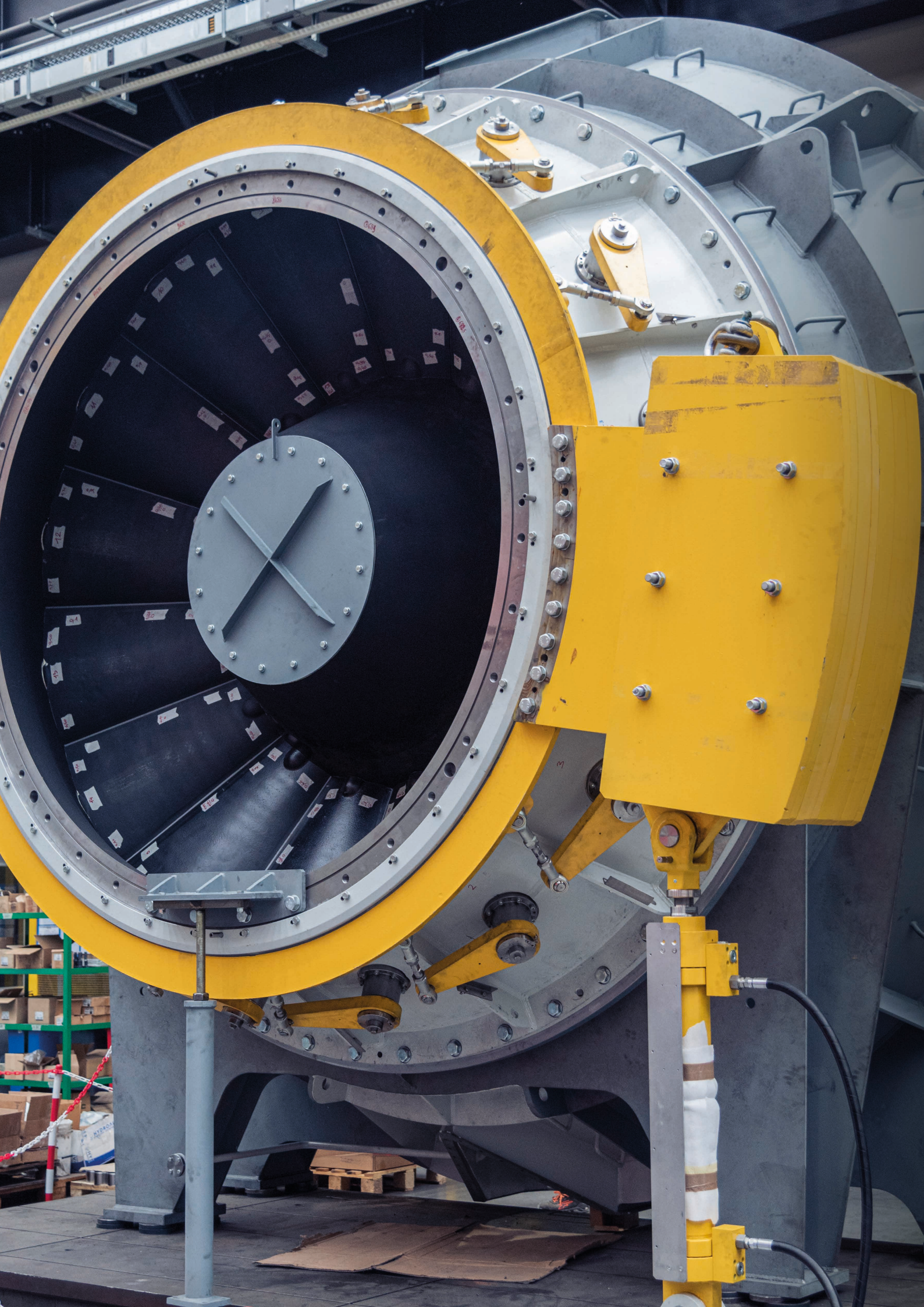
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