

## Quality with many years of experience



Local Support



Repair & Upgrades



**Training** 



Service Agreements



Process Optimization



Lab and On-Site Tests

Our declared goal is for all products and services
to meet the strict ANDRITZ quality standards and for
us to provide a competitive edge for our customers by
making constant further developments. With our highquality and efficient products, we gladly take on, if requested,
the complete start-up and commissioning on site –
this saves time and gives you the necessary assurance.
We guarantee you the best personal support.

Our service team provides prompt, professional, and reliable assistance – also for other manufacturers' products. Book our service package and you can be sure of the best operating reliability for your systems in the long term. You do not have to think about personnel, nor about maintenance schedules or utilities. With original spare parts from ANDRITZ, your product will always have the highest quality level, now and in the future.

# ANDRITZ – energy consulting for pumps and systems



Energy is becoming more and more important. The energy costs are usually higher than the cost of acquisition and maintenance of the pumps! There is also very large savings potential. According to the Fraunhofer ISI Institute, 42% of the EU's power is consumed by industry, 30% of this amount by pumps, which thus consume 12.6% of the EU's electricity.

Sometimes pumps are oversized or conditions in the plant have changed and the pumps are operated at partial load as a result, i.e. a large part of the energy is simply wasted. According to an investigation by DENA (German Energy Agency), energy consumption by pumps can be reduced by 30%, which cuts the EU's power consumption by almost 5%, lowers  ${\rm CO_2}$  emissions, and thus saves a considerable amount of money.

By optimizing pump operations and saving the energy otherwise wasted, it is also possible to save on maintenance costs, extend the service life of the pumps, mechanical seals and bearings, and substantially increase plant availability and productivity.



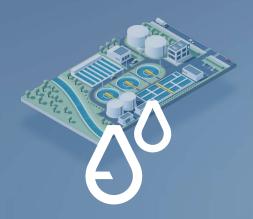
"Service is more than just having the right product – you also need to have the right trained personnel."

Source: www.pump-engineer.org

## **ANDRITZ** pumps for your industry

PUMPS
FOR THE WATER
AND WASTE WATER
INDUSTRY

PUMPS FOR THE PULP AND PAPER INDUSTRY PUMPS FOR THE FOOD INDUSTRY



Desalination

Waste water

Flood control

Transport

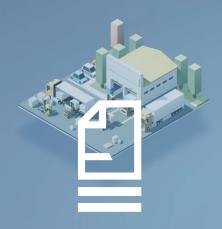
Drainage

Extraction

Municipa

Industry water

Irrigation



Complete pumps program for the entire pulp and paper



Complete
pumps program
for the entire sugar
and starch industry

Pumps for fooc applications

Bioethanol

Others

## PUMPS FOR THE MINING AND MINERALS INDUSTRY

## PUMPS FOR THE ENERGY INDUSTRY

## PUMPS FOR OTHER INDUSTRIES



Mine dewatering
Water management
Process water



Pump storage

Power cooling water

Pumps as turbines

Flue-gas desulfurization (FGD)



Offshore seawater lifting Chemicals Metals

Heating, ventilation, air conditioning and refrigeration (HVACR)

ANDRITZ offers innovative and targeted solutions with pumps and complete pumping stations. Our longstanding experience in hydraulic machine manufacturing and complete process know-how form the basis of the high standard of ANDRITZ pump engineering.

Learn more about our operative industries for standard pumps >



Learn more about our operative industries for engineered pumps >



## Greater efficiency gives you a competitive edge



For over 100 years, ANDRITZ has been a byword for competence and innovation in the development, design, and manufacture of centrifugal pumps. Our many years of experience all over the world will benefit you in maintenance and optimization of production facilities.

Enhancing the efficiency of our customers' equipment has, in particular, been the main focus of our efforts to help our customers for many years. Large savings potential can be realized as from an efficiency improvement of only 20% in the pumps used. In addition, we give the operating reliability and availability of your plant highest priority. This is reflected in constant monitoring and optimization of our pumps. Thanks to the prestigious research institute in our own works, ASTROE, ANDRITZ is always one step ahead in product development and optimization.

Our customers profit daily from the know-how and experience available at our own research facility. We conduct an expert assessment together with you, thus creating transparency and making an optimum solution possible that is tailored to your needs. We use high-quality, original spare parts for repairs to your pumps. Assembly is conducted according to defined schedules and with assistance from our trained personnel.

In addition, ANDRITZ offers comprehensive supply programs as well as the complete electrical and process

control engineering for hydropower stations. These modular equipment components can be harmonized individually and form the basis of innovative, long-term solutions.

## AN OVERVIEW OF OUR SERVICES:

- Supply of original spare parts
- Deployment of trained personnel
- Installation and start-up
- Inspection
- · Repairs, overhauls, maintenance
- · Machine assessment by an expert
- for early fault detection
- Consulting and modernization
- · Performance and vibration
- measurements
- Fault and damage analyses
- Feasibility studies
- Energy consulting for pumps
- and systems
- Preparation of maintenance schedules
- Service and maintenance agreements
- Automation and Electrical Power
- Systems
- Electronic equipment
- Training

## Finding the best solution together

Would you like to optimize your system to reduce costs? Our competent service teams are the right partners to tackle this issue.

Firstly, we thoroughly check all system-relevant parameters, such as delivery flow, pressure head, and power consumption. Based on our findings, we enhance your plant's efficiency by optimizing the energy consumption and the hydraulics of your plant and adapting it to any changed operating conditions. This results in a significant improvement of your plant's efficiency – ensuring minimum costs at maximum operational reliability. Additionally, we identify further savings potential.

To round off our pump service, our teams also help you to significantly cut your costs by reducing maintenance and repair costs. We also optimize your stock management by providing a consignment store and ensure that the outlay is in accordance with your actual requirements. This way fixed costs are reduced. Additionally, we provide you with a simple cost planning thanks to the use of fixed prices as well as further customized solutions.

## WE ENHANCE YOUR PLANT'S EFFICIENCY BY ...

- · optimizing energy consumption,
- optimizing the hydraulics,
- · improving efficiency, and
- · identifying savings potential

### AND CUT YOUR COSTS BY ...

- · reducing maintenance and repair costs,
- · optimizing stock management by
- · providing a consignment store,
- ensuring that outlay is according to actual
- requirements, thus reducing fixed costs,
- · simple cost planning thanks to the use
- · of fixed prices, customized solutions.





## Modernization and rehab

Our many years of experience and the latest technology enable us to find the best solution for our customers together.

Sometimes pumps are oversized or conditions in the plant have changed and the pumps are operated at partial load. As a result, for example, a large part of the energy is simply wasted. Such inefficiently running plants and pumps do not only waste energy, but are also prone to errors and unplanned downtimes. Our skilled service teams can prevent such undesired events by bringing your plant and pumps up to the latest standards. Therefore, we rely on our strong research and development expertise, innovative solutions and forward-looking products, as well as trained, highly qualified, and experienced personnel operating worldwide.

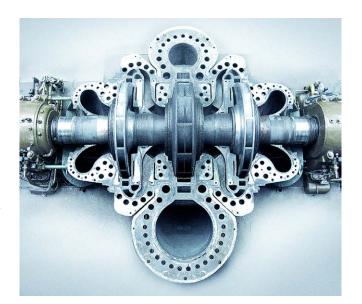
Thanks to our research and development activities as well as our prestigious in-house research institute AS-TROE, we are always one step ahead in product development. This enables us to provide individual and comprehensive modernization solutions. Our complete package – from planning to the dismantling of plants – guarantees brief standstill times thanks to well-coordinated service processes, reduced maintenance and repair costs.

## WE CAN BRING YOUR PLANT UP TO THE LATEST STANDARDS WITH ...

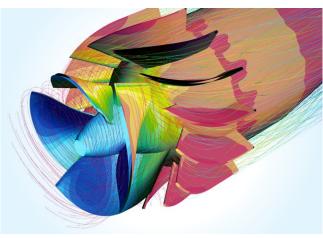
- · strong research and development expertise,
- innovative solutions and forward-looking products, and
- trained, highly qualified, and experienced personnel operating worldwide.

## THANKS TO THE PRESTIGIOUS IN-HOUSE RESEARCH INSTITUTE ASTRÖ, WE ARE ALWAYS ONE STEP AHEAD IN PRODUCT DEVELOPMENT.

- Individual and comprehensive modernization solutions
- Complete package from planning to dismantling of plants
- Brief standstill times thanks to well coordinated service processes
- Reduced maintenance and repair costs







## Operating reliability

Fast, reliable, and flexible – finding the best solution together.

Service and maintenance are traditional strengths at ANDRITZ. We are here for you around the clock, 365 days a year, with our service partners worldwide. Our pumps service is characterized by inspection and maintenance from a single source. Our fast and unbureaucratic assistance and comprehensive knowhow in wear protection ensure a prompt adjustment to changed conditions. Thereby, we also rely on our optimum sensor equipment for industrial Internet of Things pump monitoring. With our service teams, you receive safety from certified quality, customized service, and maintenance agreements as well as our original ANDRITZ spare parts service.

We use high-quality, original spare parts for repairs, modernization, and optimization of your pumps. With ANDRITZ original spare parts, your product will continue to be on the highest quality level in the future.

We offer the complete package of spare parts from a single source, at low cost, quickly, and easily. All spare

parts are delivered promptly and punctually. If you wish, we can also fit them for you on site. This way, your products, and systems will soon be ready for use again, keeping downtime to a minimum.

Do you want to have spare parts available on site at all times? If required, we can also offer a customized wear part kit. This means you have your original ANDRITZ spare parts ready to hand at all times.

## WE ARE HERE FOR YOU AROUND THE CLOCK, 365 DAYS A YEAR, WITH OUR SERVICE PARTNERS WORLDWIDE.

- · Fast and unbureaucratic assistance
- · Comprehensive know-how in wear protection
- · Optimum sensor equipment for pump monitoring
- · Inspection and maintenance from a single source
- Prompt adjustment to changed conditions
- · Safety from certified quality
- Service and maintenance agreements
- Original ANDRITZ spare parts service



# Automation and electrical power systems

Customized automation solutions and services for small and large pumping stations.

In the process of optimizing and modernizing plants and pumps, our service teams always consider the history of the plant and its electrical equipment in order to establish a flexible, safe, and innovative automation. Finally, our service portfolio for modern automation solutions is rounded off by efficient and reliable electrical power systems.

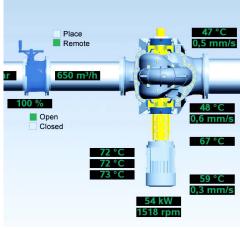
## THIS INCLUDES:

- · Pumps and plant control,
- · supervisory control and data acquisition (SCADA),
- · electrical protection, instrumentation,
- · network technologies, and security.

## THIS INCLUDES:

- · Motors and starters,
- · frequency inverters,
- soft starters, low- and mediumvoltage switch gears,
- power factor correction as well as transformers.





## Smart Pumps

ANDRITZ has launched its IoT activities already back in 2005 and its basic activities in the automation sector began as early as 1984. Now, the company has combined its innovative industrial IoT solutions (IIoT), which are field proven in many reference plants, under the technology brand "Metris – Foresee digitally". Metris technologies include latest state-of-the-art Industrial IoT solutions as well as any kind of smart digital service. These can be fully tailored to individual customer requirements and unite our clients' physical and digital worlds.

With regard to IIoT solutions for pumps, ANDRITZ has set a key focus on ensuring continuous and sustainable operational reliability and performance of pumps and plants ever since. ANDRITZ delivers highly sophisticated condition monitoring solutions for pumps. These solutions can be standard software packages or tailored to specific customer request. Special sensors are installed at the pump for this purpose and take measurements continuously. All data can be analyzed within the software or exported to various file formats. Limits and alert notifications with a traffic light system approach are also provided. The data is stored in an ANDRITZ Metris database. Metris cloud's data are accessible by both the client and

ANDRITZ condition monitoring experts, which enables 24/7 service for the customer. Finally, ANDRITZ also provides optimization

modules for pumps in plants or pumping stations as well as remote control options for locally installed platforms.

Thus, ANDRITZ is taking pump and plant operations to the next level. By monitoring an intuitive human-machine interface of the control system that is equipped with groundbreaking digital and visual technology, highly efficient workflows make the future calculable and enable proactive action through the analysis of data. Thereby, ANDRITZ IIoT technologies become the basis for Internet of People (IoP) solutions by connecting our customers' specialists among each other as well with ANDRITZ experts. This value-adding interre-

lation results not only in a professional preparation of the collected data improving the plant's performance, but moreover enables our customers to practice successfully applied business intelligence.

IoP

ANDRITZ connects people through VR, AR, OPP, IDEAS and many other tools. ANDRITZ IoP reduces costs and risks for our clients, while at the same time sustainably supporting and developing their valuable workforce.



## **INNOVATION SINCE 1852**

The internationally renowned ANDRITZ GROUP has been building pumps for more than 165 years. We offer innovative and targeted solutions with pumps and complete pumping stations. Our longstanding experience in hydraulic machine manufacturing and complete process know-how form the basis of the high standard of ANDRITZ pump engineering. Our quality and highefficiency products as well as our understanding of customer requirements have made us a preferred partner for pumping solutions worldwide. ANDRITZ offers everything from a single source – from development work, model tests, engineering design, manufacture and project management, to aftersales service and training. We also perform complete start-up on site and guarantee our customers the best support. Our declared goal is your complete satisfaction. See for yourself!

## **EUROPE**

ANDRITZ AG Stattegger Strasse 18 8045 Graz, Austria p: +43 316 6902-2509 f: +43 316 6902-413 pumps@andritz.com

ANDRITZ Ritz GmbH Güglingstraße 50 73529 Schwäbisch Gmünd, Germany p: +49 7171 609-0

p: +49 7171 609-0 f: +49 7171 609-287 ritz@andritz.com

ANDRITZ Hydro S.L.
Polígono Industrial La Garza 2
Carretera de Algete M-106, Km. 2
28110 Algete
Spain
p: +34 91 6636 409
f: +34 91 425 1001
bombas.es@andritz.com

## **SOUTH AMERICA**

ANDRITZ HYDRO S.A.
Av. Juruá 747, Alphaville Industrial
06455-010, Barueri, SP - Brasil
p: +55 11 4133-0000
f: +55 11 4133-0037
bombas-brazil@andritz.com

### ASIA

ANDRITZ (CHINA) LTD.

No.83 B Zone, Leping Central Technology & Industry Park, Sanshui District,
Foshan 528137, Guangdong, P.R.China p: +86 0757 6663-3102

atc\_pumps@andritz.com

ANDRITZ Separation & Pump Technologies India Pvt. Ltd. S.No. 389, 400/2A & 400/2C, Padur Road, Kuthambakkam Village, Poonamallee Talluk, Thiruvallur District – 600124, Chennai, India p: +91 44 4399-1111 pump.in@andritz.com ANDRITZ FZCO

Dubai Airport Free Zone (DAFZA) Building 6WB – Office No. 642 Dubai, United Arab Emirates p: +971 4 214 6546 dubai@andritz.com

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