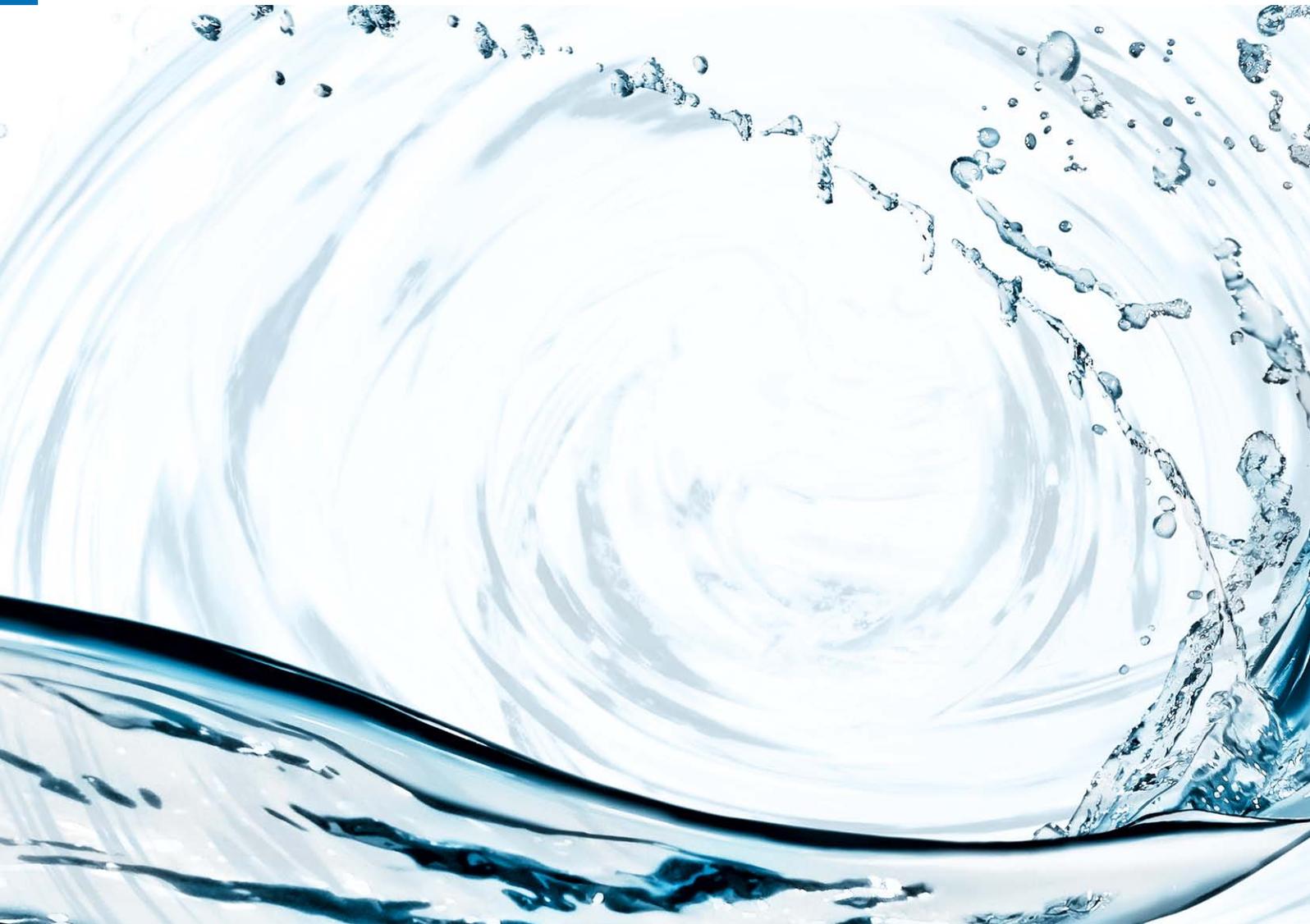


ANDRITZ

Pump solutions for water and waste water



ANDRITZ in water resources management

Custom-tailored pump solutions

Are you responsible for water resources management or waste water disposal, or are you project manager of a large infrastructure project for irrigation, drinking water and industrial water supplies or for flood protection? You can find an overview of our offers for water resources management here.

For decades, the reliability of ANDRITZ centrifugal pumps has made them the first choice for applications in water resources management. The standard components of ANDRITZ pumps guarantee high availability, allow the use of time-tested components, and minimize the number of spare parts to be kept in stock. With our company-owned technical center, ASTRÖ, we have an internationally recognized institute for hydraulic development and investigation work at our disposal. Optimization on a computer using CFD and numerous model and pump tests form the basis for the high efficiency of the ANDRITZ pumps series.

The advantages at a glance

- Modular system
- Robust
- High efficiencies
- Pumps for all applications from one supplier
- Numerous horizontal and vertical designs

Drinking and industrial water supplies

The water loop closes with ANDRITZ: Our time-tested range of pumps is used to remove water from pits or wells, for water transport, and for water distribution.

Irrigation

Whether it is a matter of irrigating free and special-purpose zones or huge irrigation projects for agricultural areas, ANDRITZ pumps offer efficient and cost-effective solutions.

Waste water transport

ANDRITZ pumps cover the requirements of both municipal and industrial waste water transport. As one of a small number of pump manufacturers, we offer both dry- and wet-mounted sewage pumps.

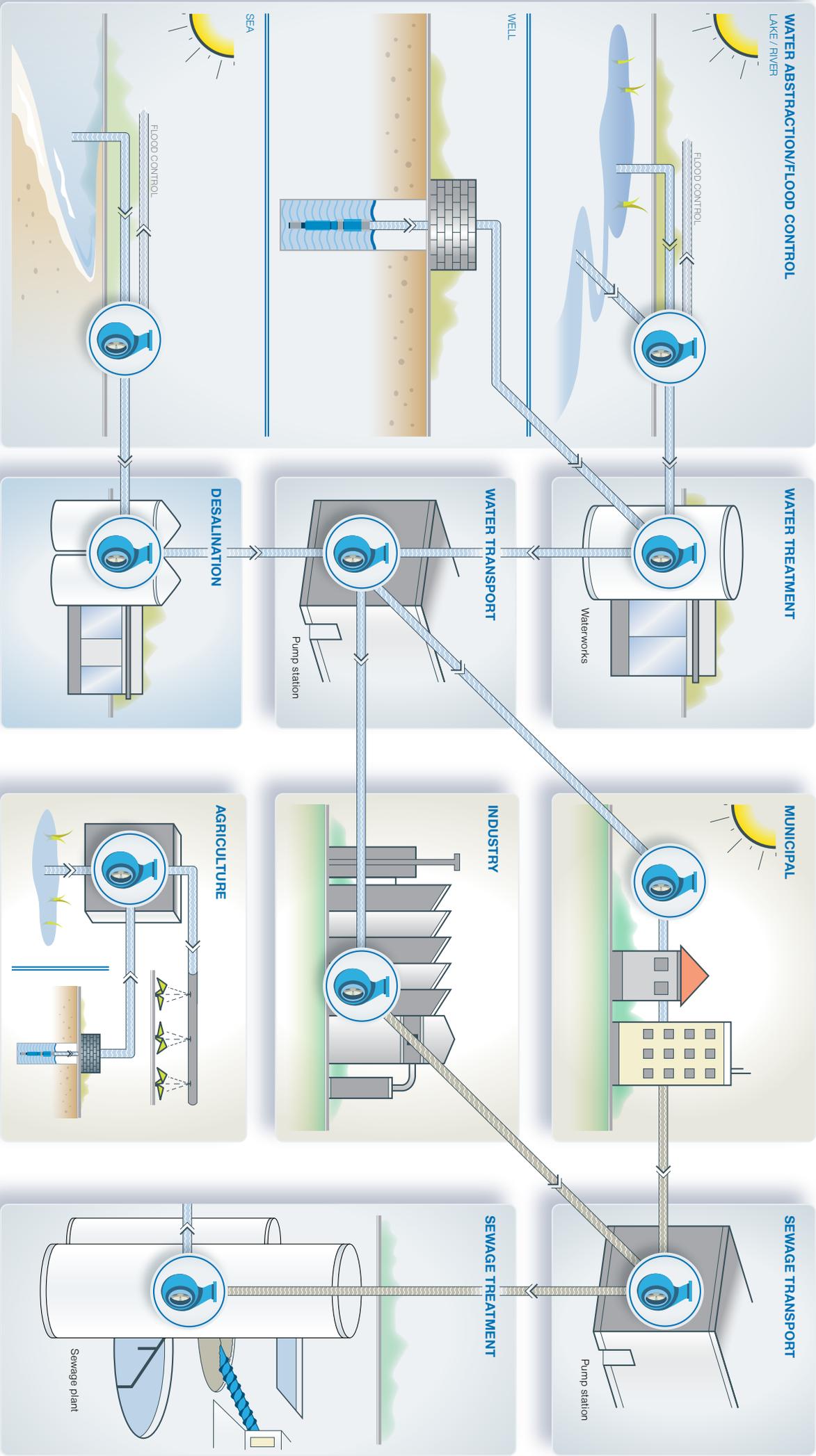
Flood control and drainage

In times of rising flood levels, as a result of sustained rainfall and rivers bursting their banks for example, prompt action is important. ANDRITZ pumps can be used to drain areas prone to flooding as well as areas already flooded.

Pumps for seawater desalination

In order to cover the demand for freshwater as drinking and process water, also in very dry regions and in areas with a high population density, the plentiful supply of seawater should be harnessed. ANDRITZ meets the challenges that desalination applications set for plant components.







ANDRITZ Pumps

We move water

ANDRITZ offers solutions that are used all over the world to guarantee the water supply.

Drinking water supply from Las Vegas to Beijing

The US metropolis Las Vegas lies in a desert region and draws 90 percent of its drinking water from the neighboring Lake Mead. In order to guarantee the water supply for the population of around 600,000 and just under 40 million visitors every year, and also make the supply more efficient, three large double-suction submersible motor pumps with more than 8,000 kW designed and manufactured by ANDRITZ pump the water (17,200 m³) up to this city in the desert from a depth of 80 meters.

Guangzhou in southeastern China numbers among the fastest growing cities in the country – the current level of around 12 million inhabitants is expected to reach as much as 18 million by the year 2020 according to researchers. This also presents enormous challenges for the drinking water supply. The city's authorities meet this challenge with ANDRITZ technology. In a local pumping station, a total of ten ANDRITZ double-flow pumps have been in operation since 2010, and two more have been installed as standby units. The pumping station conveys around 45 cubic meters of water per second into the city. On its journey there, the water covers a distance of around 40 kilometers and a height difference of 40 meters.

The Hui Nan Zhuang pumping station in the southwestern part of the Chinese capital Beijing (11.5 million inhabitants) has eight horizontal double-flow splitcase pumps. They press a total of 60 cubic meters of water per second into two pipes that convey the drinking water to Beijing 60 kilometers away. The pipes, each with a diameter of four meters, are fed by three pumps, with the fourth unit in each case as standby, which can be activated immediately in an emergency.

Irrigation pumps for agriculture Andhra Pradesh, India

The Indian state of Andhra Pradesh, where 70 percent of the just under 85 million inhabitants live directly or indirectly from agriculture, is hit again and again by widespread and long-term periods of drought. As a result, the Indian government launched a project to irrigate all of the agricultural land. One of the most important partners is ANDRITZ. The Group is involved in a total of eleven sub-projects and contributes components for numerous pumping stations. It would only take three of these large pumps, with an impeller diameter of up to four meters, to fill an Olympic swimming pool with 2,500 m³ of water in under 20 seconds!

Pumps for the mining industry

ANDRITZ has advanced into new dimensions in the drainage of mining areas. Its latest development is the 12-inch submersible motor pump. The overall efficiency of

the unit was increased by 74 percent. The investment in a submersible motor pump is thus amortized in around 2.6 years.

Small-scale hydropower plants

For many years, bodies of water with a low water volume and low head could not be used to generate energy efficiently from hydropower. The design engineers at ANDRITZ developed hydrodynamic screw turbines for heads between one and ten meters and flow rates of 0.25 to ten cubic meters per second. ANDRITZ hydrodynamic screw turbines generate between 2.2 and 500 kilowatts of electricity and can be installed within a few hours. Two hundred power plants have already been fitted with this technology as single, double, and triple plants, including a mission project in Africa that supplies electricity to a kindergarten and a school.

Standard pumps can also be used to generate power by operating them in reverse. The ANDRITZ mini-turbine plants provide a means of producing your own electricity for personal use and for small industrial facilities. With their compact design, these plants can be installed as single turbines in drinking water pipes, as well as in wastewater and residual water systems, or used as complete mini-power plants in rivers. In this case, the turbine plants are dimensioned so that they are suitable both for isolated operation and for supplying an existing power network, or can also be used for pumped storage plants. This ANDRITZ technology has been chosen by a waste paper recycling plant in Germany, for example, that converts the excess pressure from the waste water in its microflotation plant into electricity, supplying power to booster pumps. This results in energy saving of 42 percent.



Pump types

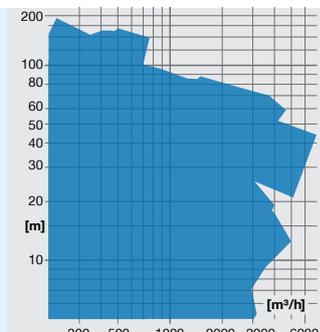
for water and waste water applications



Single-stage centrifugal pumps

- Flow rate up to 6,000 m³/h
- Head up to 160 m
- Delivery pressure up to 25 bar
- Efficiency up to 90%
- Temperature up to 200 °C

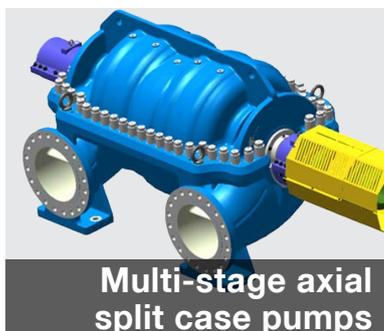
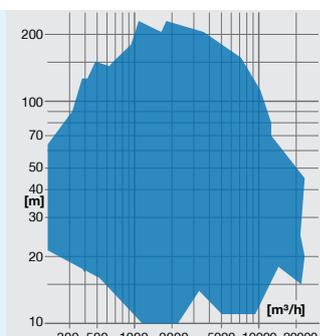
Single-stage centrifugal pumps with closed, semi-open or open impeller. Pumps available according to EN 733, ISO2858 and 5193. Various material combinations available guarantee long product life cycles and excellent efficiencies.



Double-flow axial split case pumps

- Flow rate up to 20,000 m³/h (up to 36,000 m³/h for customer-specific needs)
- Head up to 220 m
- Delivery pressure up to 25 bar
- Efficiency beyond 90%
- Temperature up to 110 °C

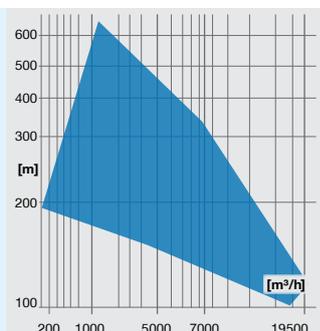
Single-stage axial split case pumps for conveying pure and slightly contaminated media or aggressive liquids. Efficiency of over 90% and low pulsation thanks to the double flow radial impeller with optimum suction behavior and good NPSH values.



Multi-stage axial split case pumps

- Flow rate up to 18,000 m³/h (up to 36,000 m³/h for customer-specific needs)
- Head up to 650 m (up to 800 m for customer-specific needs)
- Power up to 7,000 kW
- Efficiency up to 90%

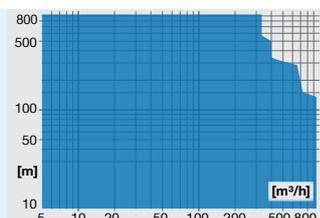
Multi-stage axial split case pumps with optional impeller arrangements in single or double flow design, optimized for transporting pure, slightly contaminated, or aggressive liquids, with optimum suction performance and excellent efficiencies.



Multi-stage radial split case pumps

- Flow rate up to 800 m³/h
- Head up to 800 m
- Delivery pressure up to 100 bar

Multi-stage, radial split-case high-pressure pumps in horizontal or vertical design. Manufactured in cast iron, bronze, aluminum-bronze, or stainless steel variants.



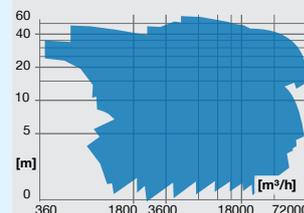
Pump types

for water and waste water applications



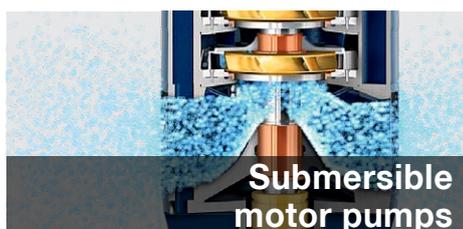
- Flow rate up to 70.000 m³/h
- Head up to 80 m
- Power up to 10.000 kW

Vertical line shaft pumps in pull-out or non pull-out design, optional with hydraulically adjustable impeller blades.



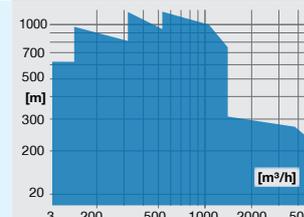
- Flow rate up to 180.000 m³/h
- Head up to 40 m (concrete), up to 250 m (metal)
- Power up to 30.000 kW (concrete), up to 50.000 kW (metal)

Vertical volute pumps with our without guide vane mechanism. The hydraulic dimensioning and design of the volute casing depends on the specific output characteristics. Optimum flow is achieved in the volute thanks to its individual shaping, thus also achieving a high level of efficiency.



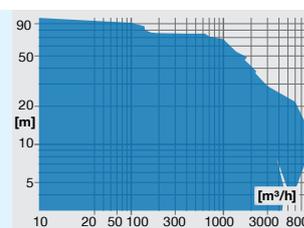
- Flow rate up to 6,000 m³/h
- Head up to 1,500 m
- Delivery pressure up to 150 bar

Multi-stage, single- or double-flow submersible motor pumps that impress with their long service life and low maintenance effort. Modular design for maximum possible flexibility.



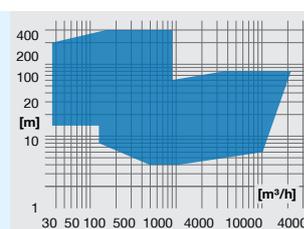
- Flow rate up to 10,000 m³/h
- Head up to 100 m
- Delivery pressure up to 16 bar

Wet- or dry-mounted sewage pumps to convey dirty and waste water, as well as for sludges and abrasive media. Different impeller shapes possible.



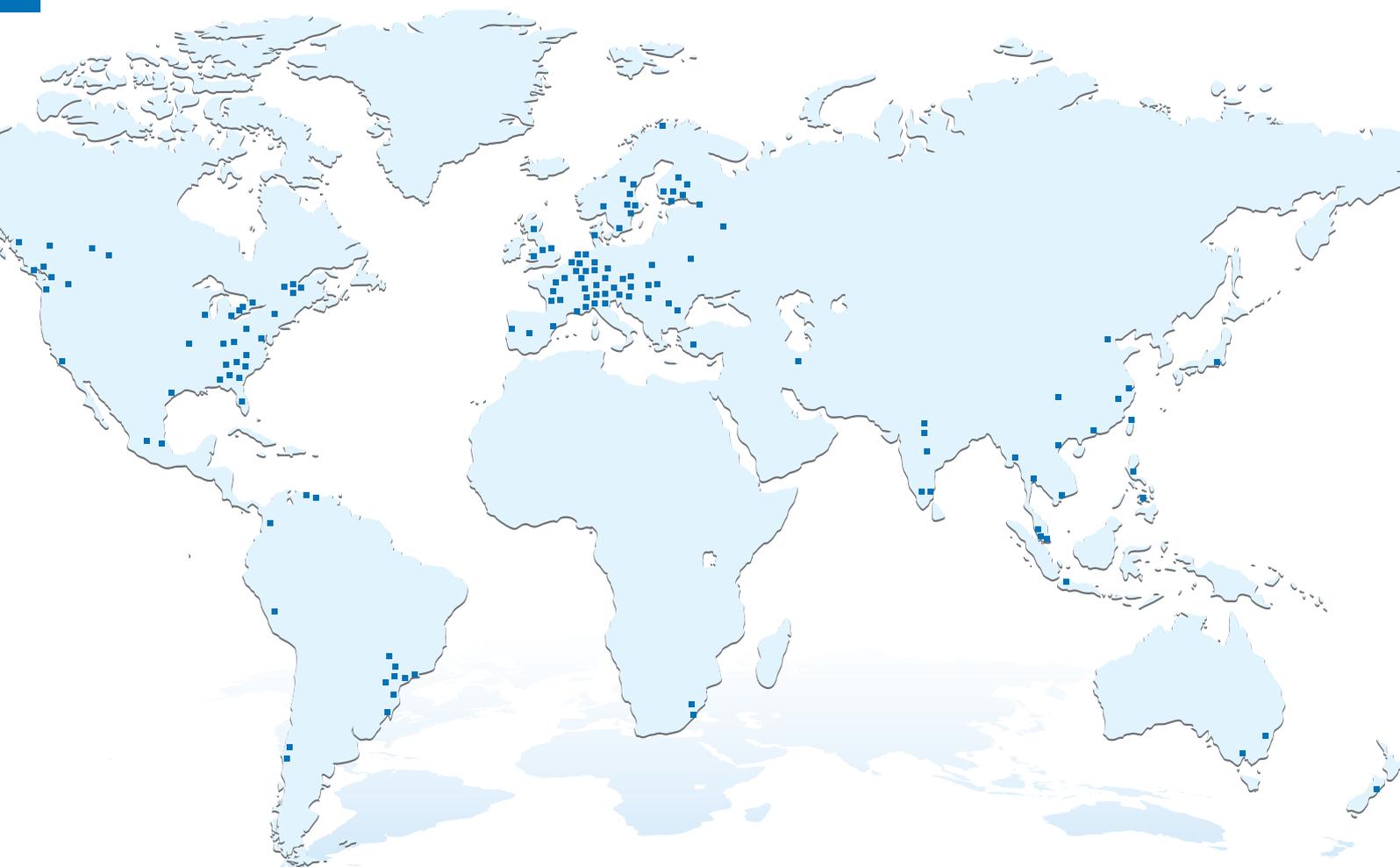
- Water flow up to 6 m³/s
- Head up to 300 m
- Power up to 2 MW
- Energy production and recovery

Used as drinking water, waste water turbines; in small power plants connected to the electricity grid; as pump turbines for storage in small applications and island facilities (e.g. for mountain refuges).



Close to our customers

ANDRITZ locations worldwide



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