



# **FLEXIBLE APPLICATED IN SEWAGE**

**SUBMERSIBLE MIXER, ASMX  
SUBMERSIBLE AGITATOR, ASAG  
SUBMERSIBLE RECIRCULATION PUMP, ASRP**

**ANDRITZ**

# ANDRITZ Pumps for your industry



Water and  
sewage



Pulp and  
paper



Power



Other  
industries

ANDRITZ specializes in the development and manufacturing of high-quality pumps, offering a comprehensive range from standardized products to tailor-made solutions across various industries. Our pumps have achieved global success in diverse applications, including municipal drinking water supply, wastewater disposal, industrial water distribution, and significant infrastructure projects such as irrigation, seawater desalination, and water transmission.

In flood control, irrigation, and water transport, ANDRITZ not only provides the largest and most powerful pumps, but also complete systems and pumping stations. As a prominent supplier to the pulp and paper industry, we leverage strong process expertise to deliver pump solutions that enhance process stability and energy efficiency. Our product portfolio encompasses a full range of robust process pumps and innovative medium-consistency pumps with an advanced system to avoid fiber losses. Notably, our double-suction headbox pumps boast efficiency levels of up to 93% and low-pulsation impellers, crafted with innovative methods. They thus provide the best performance in the paper manufacturing process.

In line with our commitment to sustainability, ANDRITZ offers reliable small hydroelectric power plants and pumps utilized as turbines for private, municipal, industrial, and commercial applications. Our diverse range ensures economically and ecologically sustainable energy production. Specializing in hydroelectric storage, our pumps cover a wide range from high heads to high flows, showcasing our engineering competence.

Our pump series, distinguished by modern and robust designs, high efficiency levels, and sustainability features, find applications in various demanding industries, including sugar and starch, lysine, bioethanol, hydrogen, fertilizer, mining, offshore, and general process industries.

Additionally, ANDRITZ provides IIOT-enabled premium pump technology for enhanced process monitoring, thus reflecting our commitment to cutting-edge solutions.

## Submersible mixer / agitator / recirculation pump

For 170 years, ANDRITZ has been synonymous with design ability and innovation. Our products are sturdy and wear-resistant, and can meet high customer standards in terms of efficiency, service life, easy maintenance, and economic benefits. They have been successfully operated in multiple industries around the world. ANDRITZ high standards are based on decades of experience in hydraulic machinery design and extensive professional knowledge. Our goal is to provide high-quality products and services to ensure sustained customer satisfaction. ASMX-submersible mixer, ASAG-submersible agitator, and ASRP-submersible recirculation pump, have benefits of compact structure, easy installation, simple operation and maintenance, can be widely used in various working conditions of the sewage treatment.

### PREMIUM EFFICIENCY MOTOR

IE3 Three-phase asynchronous motor, in accordance with IEC 60034-30, will reduce energy, carbon emission, and cost effectively, which will also improve productivity, and be in favor of the environmentally sustainable development. Protective class in IP68, and insulation grade in H. Permanent magnet synchronous motor for option.

### MULTIPLE SAFETY GUARANTEES

- **Double labyrinth seal:** can block long fibers from entry, protect the mechanical seal.
- **Double mechanical seal:** Good sealing effect ensures motor running in dry and stable.
- **Triple leakage monitoring:** 3 humidity electrodes detect leakage and send out an alarm signal.

- **Thermal protection** of motor winding to prevent from over heating.
- **Reliable gear box:** All ASAG and parts of ASRP will be equipped with gear box, which has the advantages of high efficiency, long service life, stable transmission and wide application range.

### MODULAR DESIGN

The modular design makes equipment more stable and universal, facilitates the reduction of parts inventory and simplifies maintenance.

#### ASMX APPLICATION FIELDS:

- Suitable for biochemical tank
- Mix tank
- Sludge tank
- Hydrolyzed acid tank
- Equalizing tank
- Thickener tank

#### ASAG APPLICATION FIELDS:

- Suitable for biochemical tank
- Hydrolyzed acid tank
- Activated sludge tank
- Flocculation tank

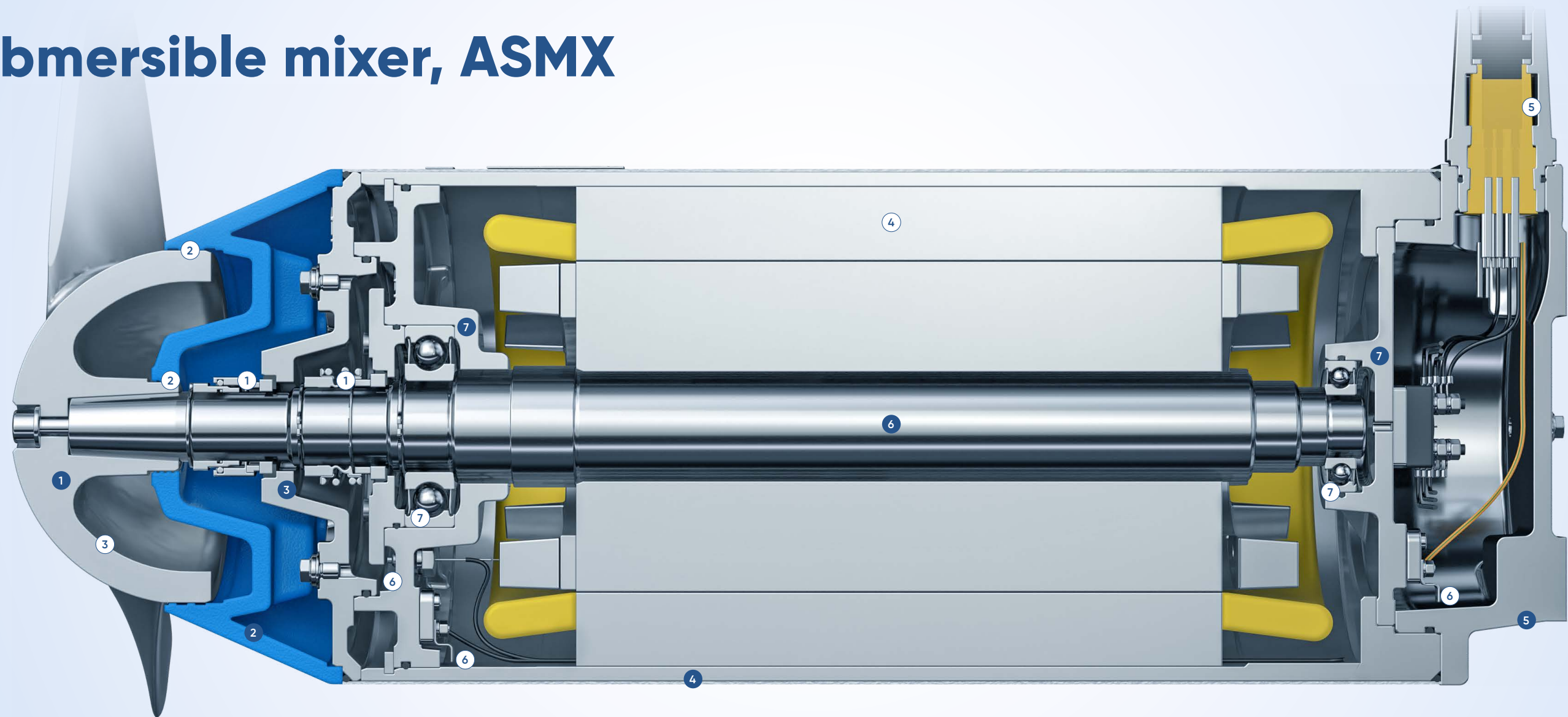
#### ASRP APPLICATION FIELDS:

- Suitable for biochemical tank
- Hydrolyzed acid tank





# Submersible mixer, ASMX



- 1 IMPELLER
- 2 TRANSITION RING
- 3 OIL CHAMBER
- 4 MOTOR HOUSING
- 5 WIRE CONNECTION CHAMBER
- 6 SHAFT
- 7 BEARING HOUSING

- 1 Double mechanical seal
- 2 Double labyrinth seal
- 3 Blades and hub casting in one piece / World-leading hydraulic designing / Backswept blades / 2 or 3 blades
- 4 IE3 three-phase asynchronous motor <PMSM option> / Winding temperature monitoring, prevent motor from over-heating
- 5 Absolutely waterproof cable entry prevents the motor from moisture
- 6 Triple leakage monitoring (sealing chamber, motor chamber, wiring chamber)
- 7 Perpetual maintenance -free bearing

## MATERIAL COMBINATIONS

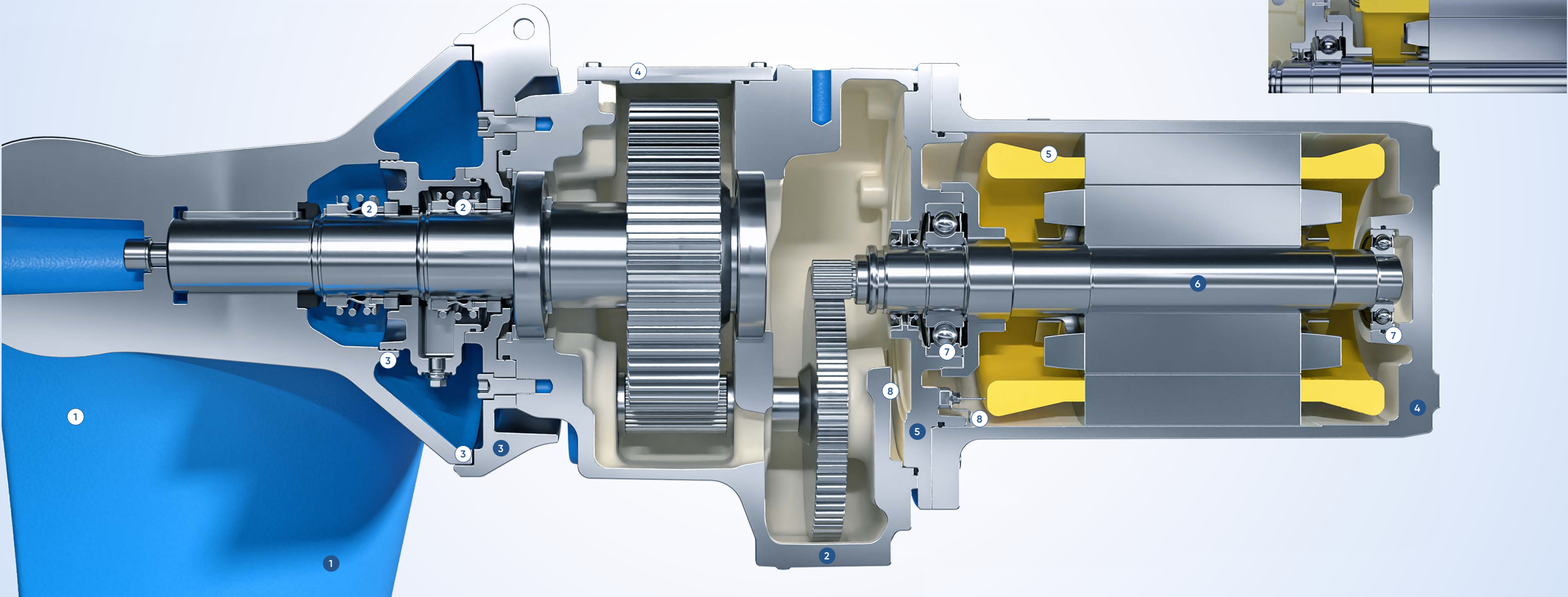
ASMX SERIES	1.4474	EN-GJL-250	PA66	1.4404	1.4057	1.4021
Impeller	■					
Transition ring			■			
Oil chamber	■	■		■		
Motor housing				■		
Wire connection chamber	■	■				
Shaft					■	■
Bearing housing		■				

Note: The parts number shows in above sectional pic.

## ASMX DATA:

- Liquid temperature up to 40°C
- Rotation speed 30-1450 rpm
- Motor power 1.1-22 KW
- Nominal impeller diameter 200-800 mm
- Thrust up to 6500 N
- Installation depth up to 20 m

# Submersible agitator, ASAG



- 1 IMPELLER
- 2 GEAR BOX HOUSING
- 3 OIL CHAMBER
- 4 MOTOR HOUSING
- 5 BEARING HOUSING
- 6 SHAFT

- 1 World-leading hydraulic designing / Backswept blades / 2 blades
- 2 Double mechanical seal
- 3 Double labyrinth seal
- 4 Standard gear box / Two-stage transmission
- 5 IE3 three-phase asynchronous motor <PMSM option> / Winding temperature monitoring, prevent motor from over-heating
- 6 Absolutely waterproof cable entry prevents the motor from moisture
- 7 Perpetual maintenance -free bearing
- 8 Triple leakage monitoring (gear box, motor chamber, sealing chamber <option>)

## MATERIAL COMBINATIONS

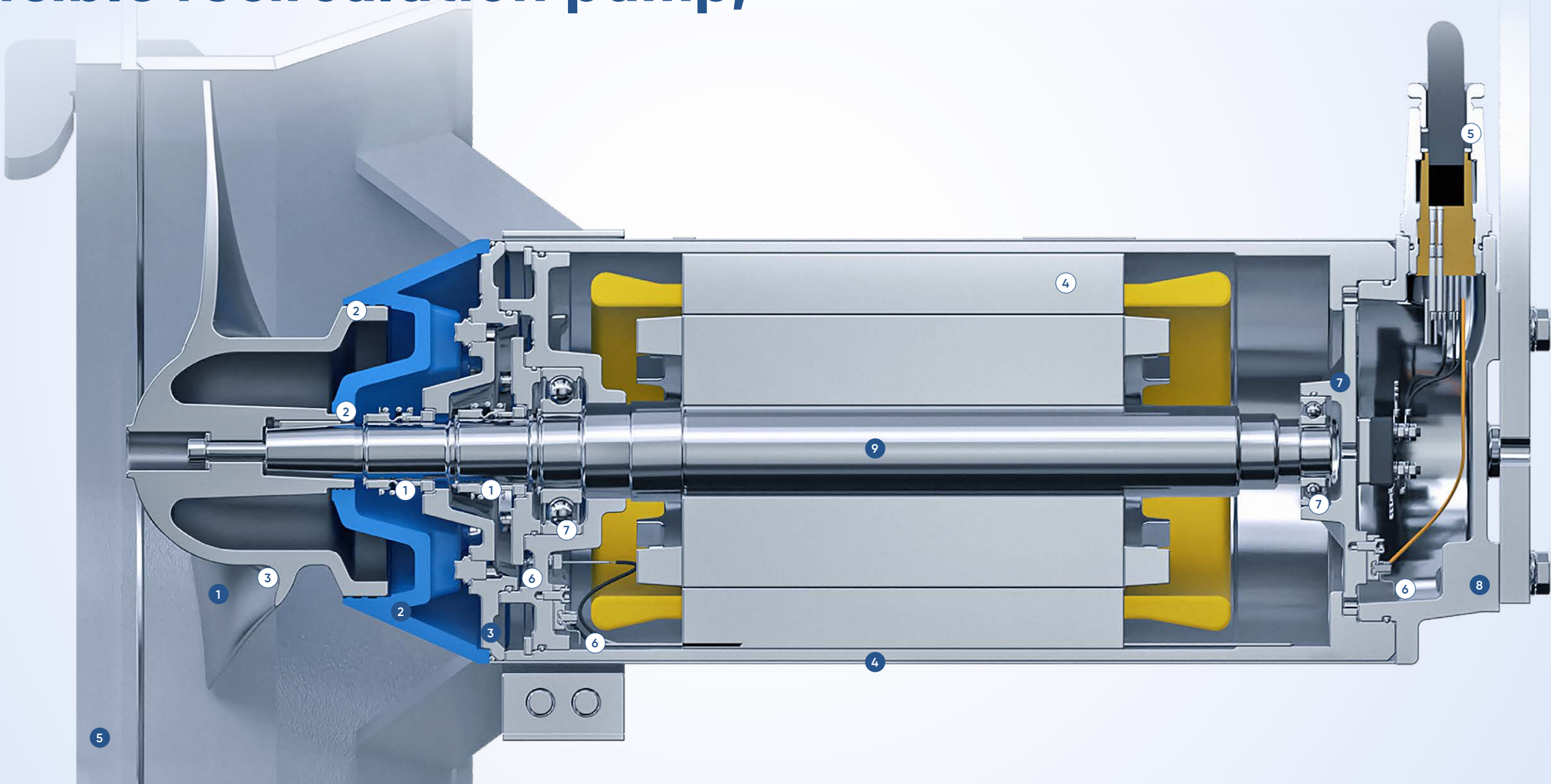
ASAG SERIES	GFR	EN-GJL-250	1.4021	1.4057
Impeller	■			
Gear box housing		■		
Oil chamber		■		
Motor housing		■		
Bearing housing		■		
Shaft			■	■

Note: The parts number shows in above sectional pic.

- ASAG DATA:**
- Liquid temperature up to 40°C
  - Rotation speed 21-110 rpm
  - Motor power 1.1-7.5 Kw
  - Nominal impeller diameter 1200-2500 mm
  - Thrust up to 5800 N
  - Installation depth up to 20 m



# Submersible recirculation pump, ASRP



- 1 IMPELLER
- 2 TRANSITION RING
- 3 OIL CHAMBER
- 4 MOTOR HOUSING
- 5 GUIDE RING
- 6 GEAR BOX HOUSING
- 7 BEARING HOUSING
- 8 WIRE CONNECTION CHAMBER
- 9 SHAFT

- 1 Double mechanical seal
- 2 Double labyrinth seal
- 3 World-leading hydraulic designing / Backswept blades / Blades and hub casting in one piece / 3 blades
- 4 IE3 three-phase asynchronous motor (PMSM option) / Winding temperature monitoring, prevent motor from over-heating
- 5 Absolutely waterproof cable entry prevents the motor from moisture
- 6 Triple leakage monitoring (sealing chamber, motor chamber, wiring chamber)
- 7 Perpetual maintenance-free bearing

## MATERIAL COMBINATIONS

ASRP SERIES	1.4474	EN-GJL-250	PA66	1.4404	1.4057	1.4021
Impeller	■					
Transition ring			■			
Oil chamber	■	■				
Motor housing				■		
Guide ring				■		
Gear box housing		■				
Bearing housing		■				
Wire connection chamber	■	■				
Shaft					■	■

Note: The parts number shows in above sectional pic.

## ASRP DATA:

- Liquid temperature up to 40°C
- Rotation speed up to 1475 rpm
- Motor power 1.1-37 Kw
- Discharge diameter 200-800 mm
- Head up to 2.5 m
- Flow up to 7000 m³/h
- Installation depth up to 20 m



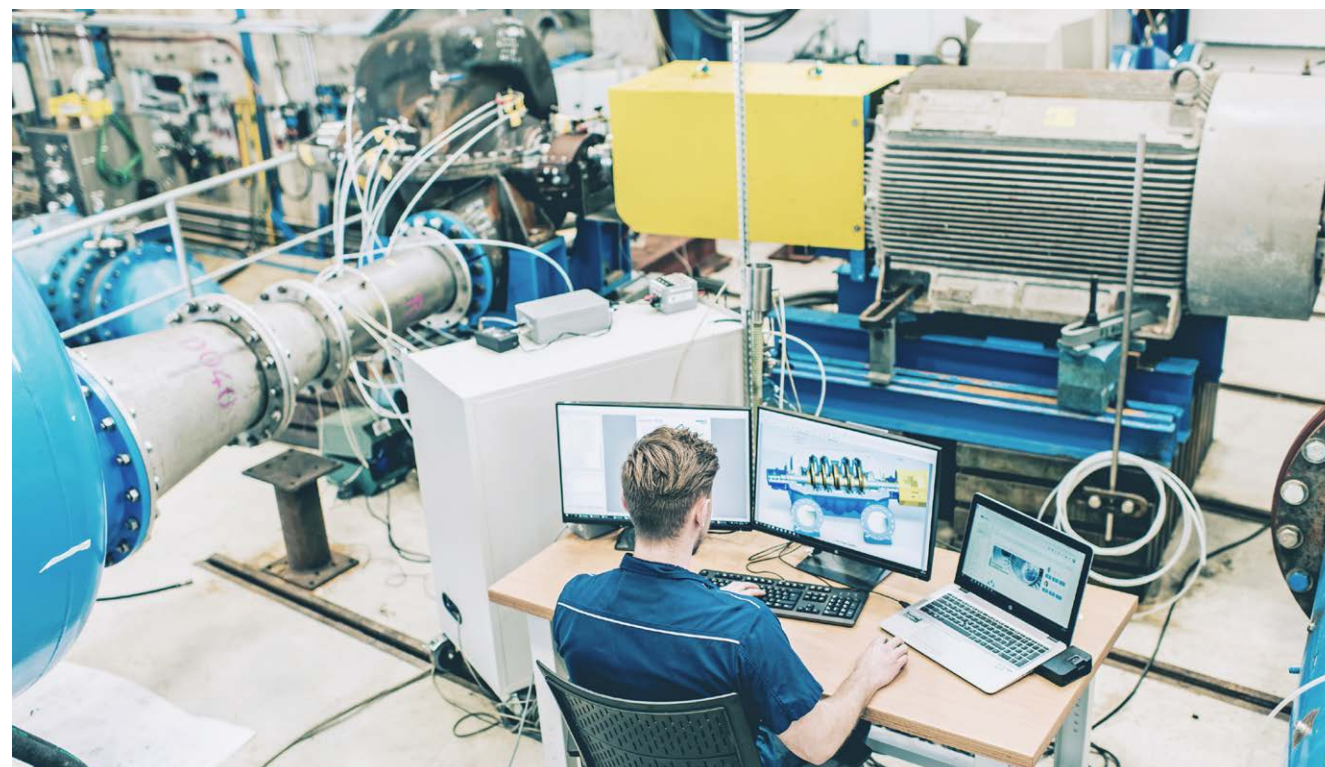
# Always a flow ahead – Research and development

Our Pump Technology Center (PTC) ASTROE enjoys an internationally renowned reputation for its hydraulic developments and investigations. The high efficiency of the ANDRITZ pump series is ensured by Computational Fluid Dynamic (CFD) calculations and extensive testing carried out in our company owned laboratory.

Continuously increasing demands by customers in our operating industries emphasize the significance of R&D in the constant optimization of products and services. Today, efficiency, flexibility, and reliability over an extended lifetime are the major challenges of the market.

Our commitment to research and development forms the basis for our advances in hydraulic machine manufacturing. With PTC ASTROE, center for hydraulic engineering and laboratory, we have an internationally renowned institute for hydraulic development work at our disposal.

We are developing and testing our pumps at different locations worldwide. Our test stands are among the most accurate in the world. By networking these research and development centers, we provide a continuous transfer of know-how within the ANDRITZ GROUP for the benefit of our customers. The main tools for R&D are numerical simulation methods as well as experimental measurements in the laboratory and on site. State-of-the-art equipment, highly precise measuring instruments as well as the latest simulation technologies, and powerful software form the basis of the high technical quality of the pumps and turbines from ANDRITZ.



# Greater efficiency for a competitive edge – Pumps service

Optimization / Modernization / Operating reliability

The conditions of your plant have changed, but your pumps are still operating as previously and therefore, wasting energy? Would you like to optimize your system to reduce costs? With ANDRITZ, you will have a competent partner for these and numerous other services at your side.

Service and maintenance have a long tradition at ANDRITZ and complement the product portfolio. The century-long expertise is reflected not only in a service portfolio with innovative solutions and advanced products that can be optimally adapted to the respective customer needs, but also in a specially trained staff. ANDRITZ has specialized in the servicing of pumps to achieve improved efficiencies and adaptations to changed operating points of the installed pumps. A large

potential for savings can already be achieved by improving the efficiency of 20 percent of the installed pumps. 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. We conduct an expert assessment together with you, thus creating transparency and making an optimum solution possible that is tailored to your needs. After examining your plant, we determine its savings potential and realize it by improving the efficiency of the pumps installed. Additionally, this individual solution lowers your maintenance costs. You do not have to think about personnel, nor about maintenance schedules or utilities. Assembly is conducted according to defined schedules and with assistance from our trained personnel.



## 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 measurement
- 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



## INNOVATION SINCE 1852

The internationally renowned ANDRITZ GROUP has been building pumps for more than 170 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 forms the basis of the high standard of ANDRITZ pump engineering. Our quality and high-efficiency 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 after-sales 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!

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