



**PUMPS**

# **HIGHEST EFFICIENCIES FOR SUBMERGED APPLICATIONS**

**VERTICAL SUBMERGED PUMP  
ASAT SERIES**

**ANDRITZ**

**ENGINEERED SUCCESS**

# ANDRITZ Pumps for your industry



Water



Pulp and  
paper



Power



General  
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.**

# The most efficient way for submerged applications

For over 170 years, ANDRITZ has been a byword for competence and innovation in designing centrifugal pumps. ANDRITZ vertical submerged pumps are advancements of our proven pump technology. Their high standard is based on decades of experience in designing hydraulic machines and on extensive process know-how. Our goals at ANDRITZ are to provide first-class products and service to secure sustained customer satisfaction.

## ANDRITZ VERTICAL SUBMERGED PUMPS

Based on the well-known ACP series, the ASAT uses the same established hydraulics, to provide maximum efficiency at submerged pump processes. The semi-open, wear resistant impeller design can convey media with solids and content with consistencies up to 3,5%. The pump is suitable for water and waste water treatment, as well as for dewatering applications. Different lengths of the suction pipe are possible to fit various submersion depths. The pump fulfills high expectations regarding efficiency, life cycle, maintenance friendliness, and economic efficiency. The standard components in ANDRITZ pumps provide high availability and enable the use of proven components. All pump parts are manufactured according to the highest quality standards in our ISO certified workshops. The superior quality of our products derives from compliance with these stringent requirements.

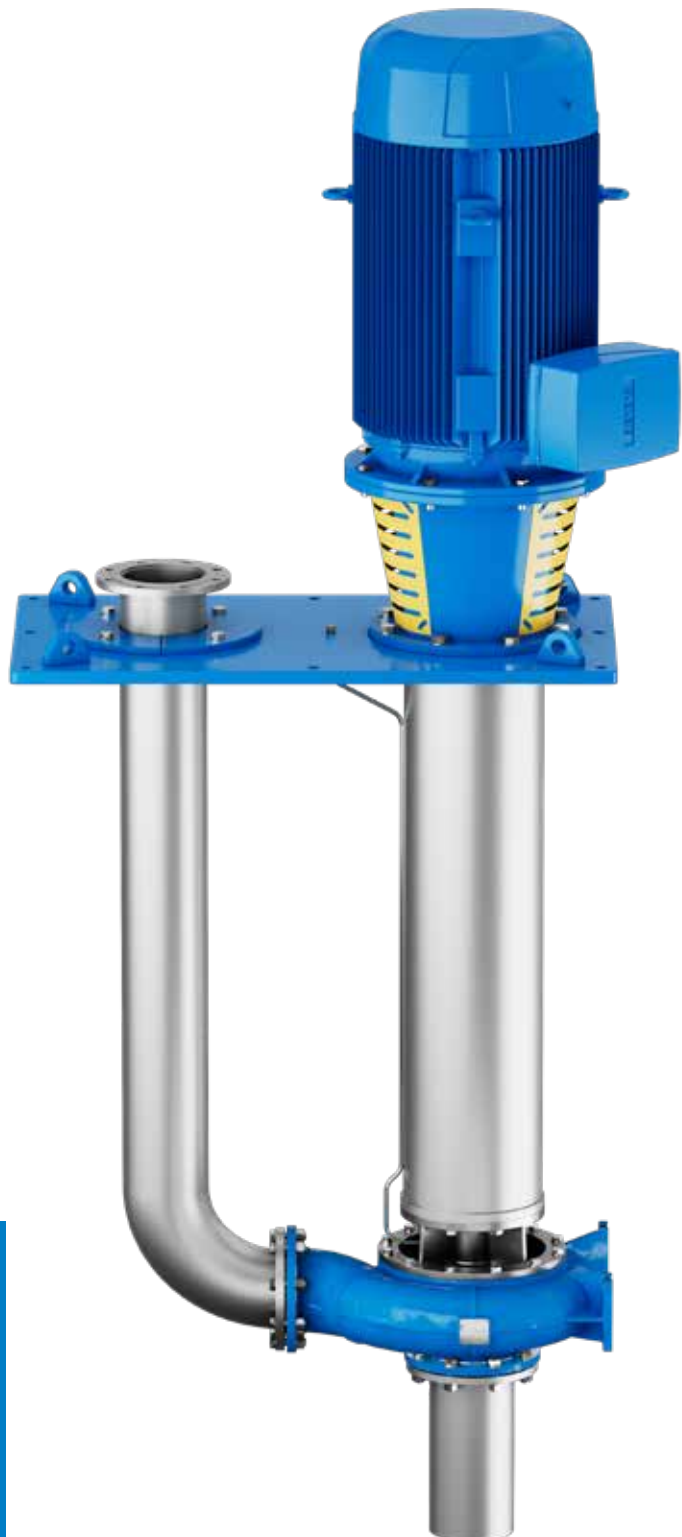
## FIELDS OF APPLICATION

- Water and wastewater management
- Dewatering applications
- Pulp
- Caustic abrasive media

### PRODUCT FACTS\*:

- Efficiency: up to 88%
- Head: up to 115m
- Flow rate: up to 800 m<sup>3</sup>/h
- Pressure: up to 16 bar
- Temperature: up to 120° C
- Consistency: up to 3,5%

\*These values are guidelines and may differ depending on project requirements

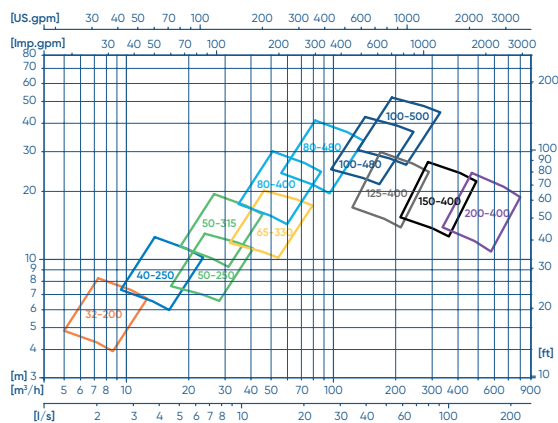


# Vertical submerged pump ASAT Series

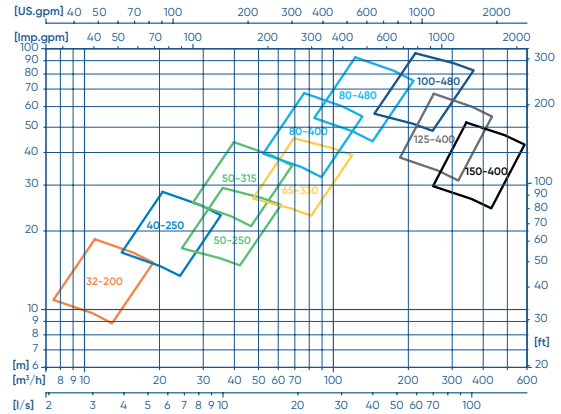
## PRODUCT BENEFITS

- Fits various depths of submerged applications
- State-of-the-art NPSH behavior
- Part load behavior better than industry benchmark
- Only five bearing support sizes for the entire series
- IIoT ready

Characteristic curve 1000 rpm



Characteristic curve 1500 rpm



## MATERIAL COMBINATIONS

ASAT SERIES	GREY CAST IRON	STAINLESS STEEL	DUPLEX STAINLESS STEEL	SUPER DUPLEX STAINLESS STEEL	CARBON STEEL
Volute Casing	■		■	on demand	
Casing Cover	■		■		
Shaft		■	■		
Impeller/Front lining			■	on demand	
Bearing housing	■				
Supporting Tube		■			■

	European standard		US standard	
Material	Number	Name	Grade	UNS
Grey cast iron	5.1301	EN-GJL-250	ASTM A48 Class 35 B	F10007
Carbon steel	1.0038	S235JR	ASTM A283 Grade C	K02401
Stainless steel	1.4404	X2CrNiMo17-12-2	ASTM A276 Type 316L	S31603
Stainless steel	1.4021	X20Cr13+QT700	ASTM A276 Type 420	S42000
Duplex stainless steel	1.4474	GX4CrNiMoN26-5-2	ASTM A890 Grade 3A	J93371
Duplex stainless steel	1.4462	X2CrNiMoN22-5-3	ASTM A789 Grade S32205	S32205
Super duplex stainless steel	1.4517	GX2CrNiMoCuN26-6-3-3	ASTM A890 Grade 1B	J93372





**1 SUPPORTING TUBE**

- Standard installable lengths are 1.2 m and 2 m

**2 IMPELLER**

- Semi-open impeller

**3 SLIDE BEARING**

- Good emergency running properties
- Low wear
- Long service life

**4 PUMP SHAFT**

- Sturdy shaft design

**5 DISCHARGE PIPE**

**6 ANGULAR CONTACT BALL BEARING**

**7 SUCTION PIPE**

- Optional
- Standard length is 0.5 m
- Different sizes on demand



# 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 form 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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