



PUMPS

EXCELLENT ABRASION RESISTANCE

**VERTICAL SUBMERGED PUMP
SAT/CAT SERIES**

ANDRITZ

ENGINEERED SUCCESS

ANDRITZ Pumps for your industry



Water



Pulp and
paper



Food



Mining and
minerals



Power



Other
industries

ANDRITZ develops and manufactures high-quality custom tailored pumps for various industries. We supply pumps for different water and waste water applications. ANDRITZ pumps are operating successfully worldwide, for example in water resources management, waste water disposal, as well as large infrastructure projects for irrigation, desalination, and for drinking water and industrial water supplies.

Thousands of ANDRITZ submersible motors and pumps have been installed in mines around the world, working under severest conditions in water management and emergency drainage, including the largest submersible dewatering pumps in the world.

As plant and equipment supplier to the pulp and paper industry, ANDRITZ provides a complete pump program. Our product portfolio comprises medium-consistency pumps with an innovative fiber separation system, for example, as well as headbox pumps with efficiencies of over 90% and particularly low pulsation.

We also supply high-performance and reliable pumps for food applications such as proteins, dairy products, or beverages as well as a complete pump program for the entire sugar and starch industry. To round off the portfolio, ANDRITZ small hydropower plants and pumps used as turbines suitable for the private as well as the municipal sectors, and for industrial and commercial facilities ensure an economic and ecological independent power generation.

The most efficient way for sump dewatering

Conveyance of coarse media requires special measures in terms of design and materials used. ANDRITZ has developed the SAT/CAT vertical free-flow pump series especially for these applications to operate in particularly rough conditions fulfilling the most demanding conveyance tasks. For over 165 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

are used for conveying suspensions with up to 140 mm particle size. The pump is suitable for very rough conditions such as extremely abrasive and caustic media, wood chips, municipal waste water, slurries containing large particles, and very long fibers, and pulp with consistencies up to 6%. The SAT/CAT series is characterized by an exceptionally large open cross section and open channel in the spiral casing. Different lengths of the suction pipe are possible to fit each sump depth. Both pump types fulfil 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.

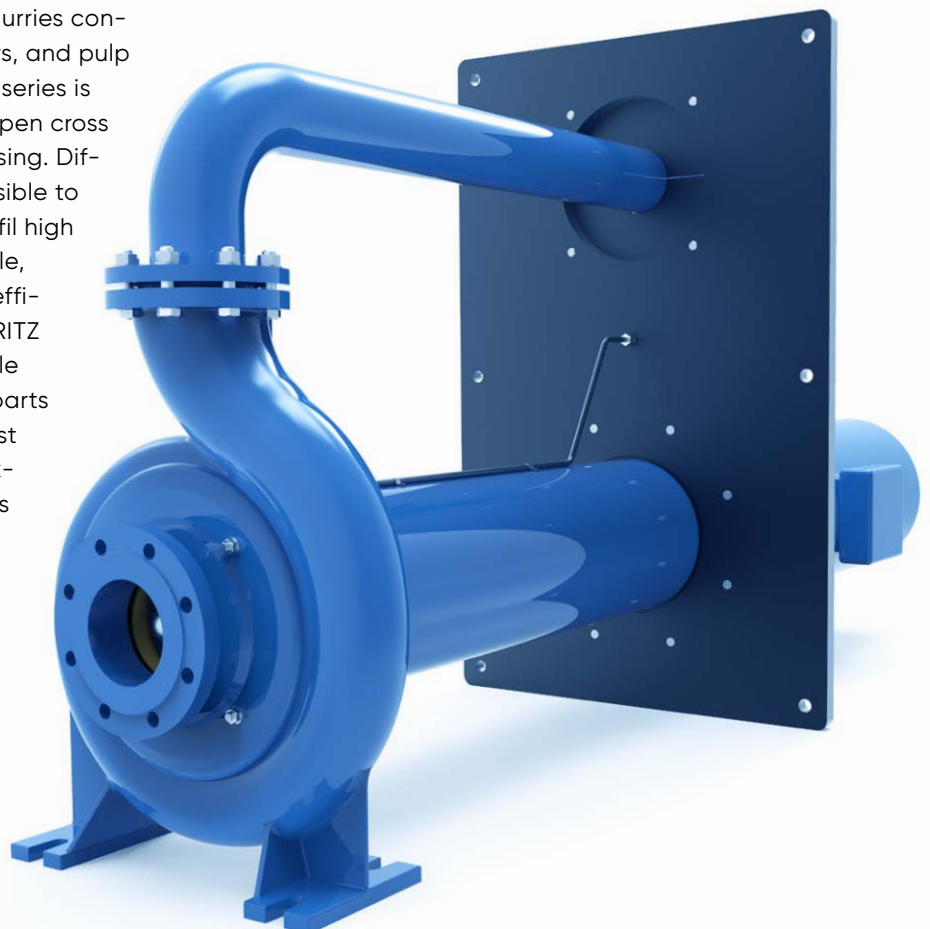
FIELDS OF APPLICATION

- Fresh water/white water
- Sewage water
- Pulp
- Slurries containing big particles
- Caustic abrasive media

PRODUCT FACTS*:

- Head: up to 55 m
- Flow rate: up to 800 m³/h
- Pressure: up to 16 bar
- Temperature: up to 60° C
- Consistency: up to 6%

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

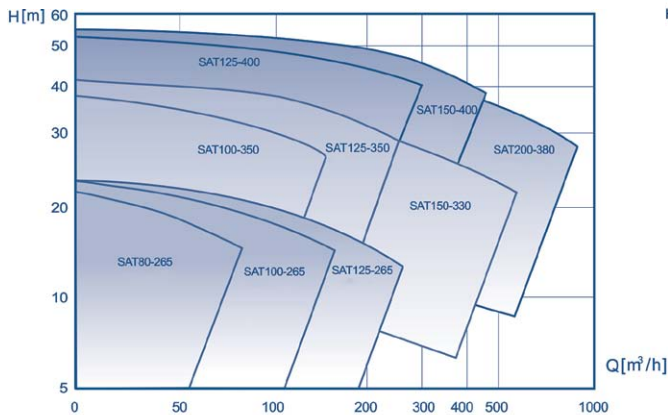


Vertical submerged pump SAT/CAT Series

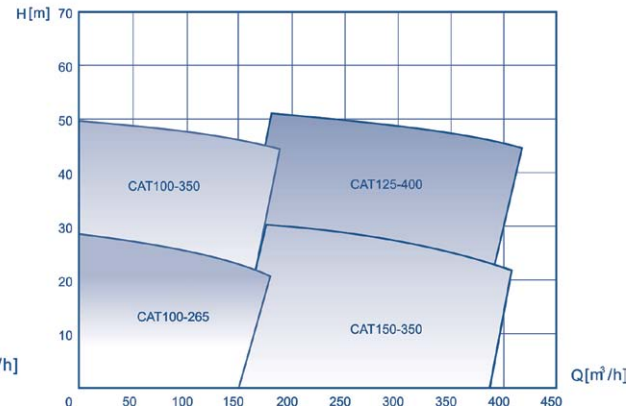
PRODUCT BENEFITS

- Wide channels, non-clogging
- Very good abrasion resistance
- Fits different depth of sump applications
- Flexible coupling – also developed for transporting coarse media
- IIoT ready

Characteristic curve SAT series 1500 rpm



Characteristic curve CAT series 1500 rpm



MATERIAL COMBINATIONS

SAT/CAT series	EN-GJL					
	250	1.4474	1.4021	1.4462	1.4517	1.4517 h
Impeller		■			■	
Casing/casing cover	■	■				
Bearing housing	■					
Front and rear lining		■				■
Shaft			■	■		

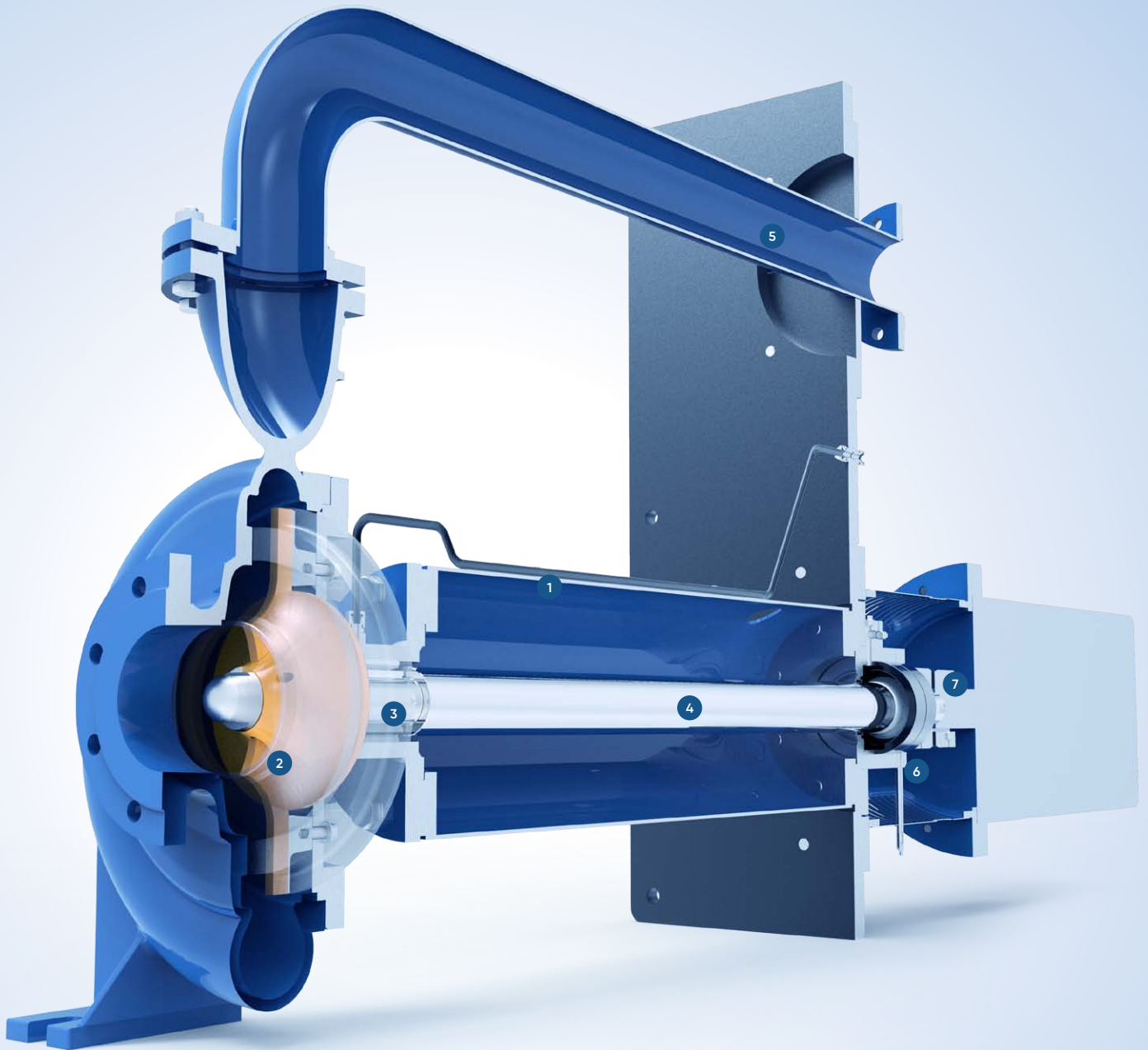
European standard

Number	Name
5.1301	EN-GJL 250
1.4474	X3CrNiMoN27-5-2
1.4021	X20Cr13
1.4462	X2CrNiMoN22-5-3
1.4517	GX2CrNiMoCuN25-6-3-3
1.4517 hardened	GX2CrNiMoCuN25-6-3-3

US standard

Grade	UNS
Class 40B	/
Grade 1A	J93370
420	S42000
S32205	S32205
Grade 1C	J93373
Grade 1C	J93373





1 INSTALLED LENGTH

- Standard installed length of 2 m
- Variable suction pipe

2 IMPELLER

- Vortex impeller

3 GUIDE BEARING

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

4 PUMP SHAFT

- Large shaft diameter
- Generously dimensioned

5 BASE FRAME

- Modular frame concept
- Integrated lifting lugs
- Flushing water connection for guide bearing

6 ANGULAR CONTACT BALL BEARING

7 FLEXIBLE COUPLING

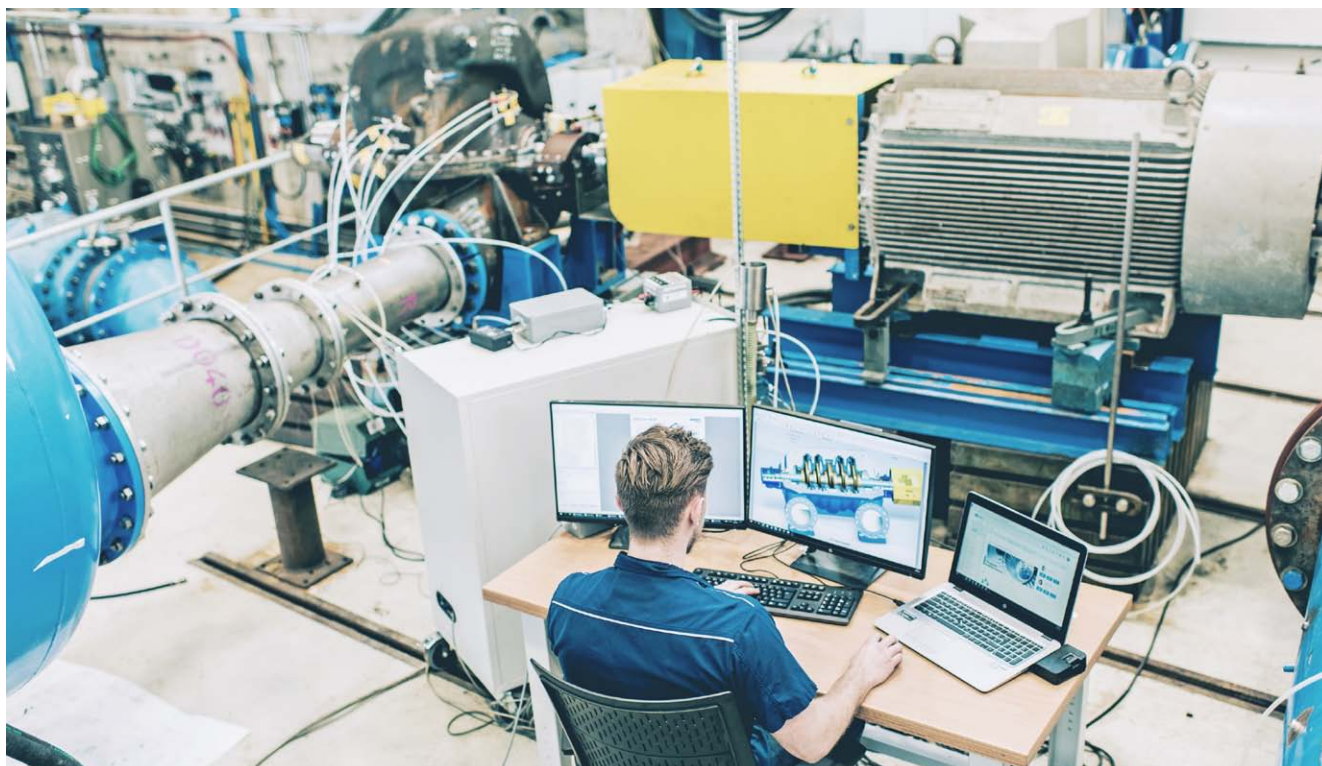
Always a flow ahead - Research and development

Our affiliate 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 ASTROE, center for hydraulic engineering and laboratory, we have an internationally renowned institute for hydraulic development work at our disposal. We are currently developing and testing our pumps and

turbines at five locations in Austria, Germany, Switzerland, and China. 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 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 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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