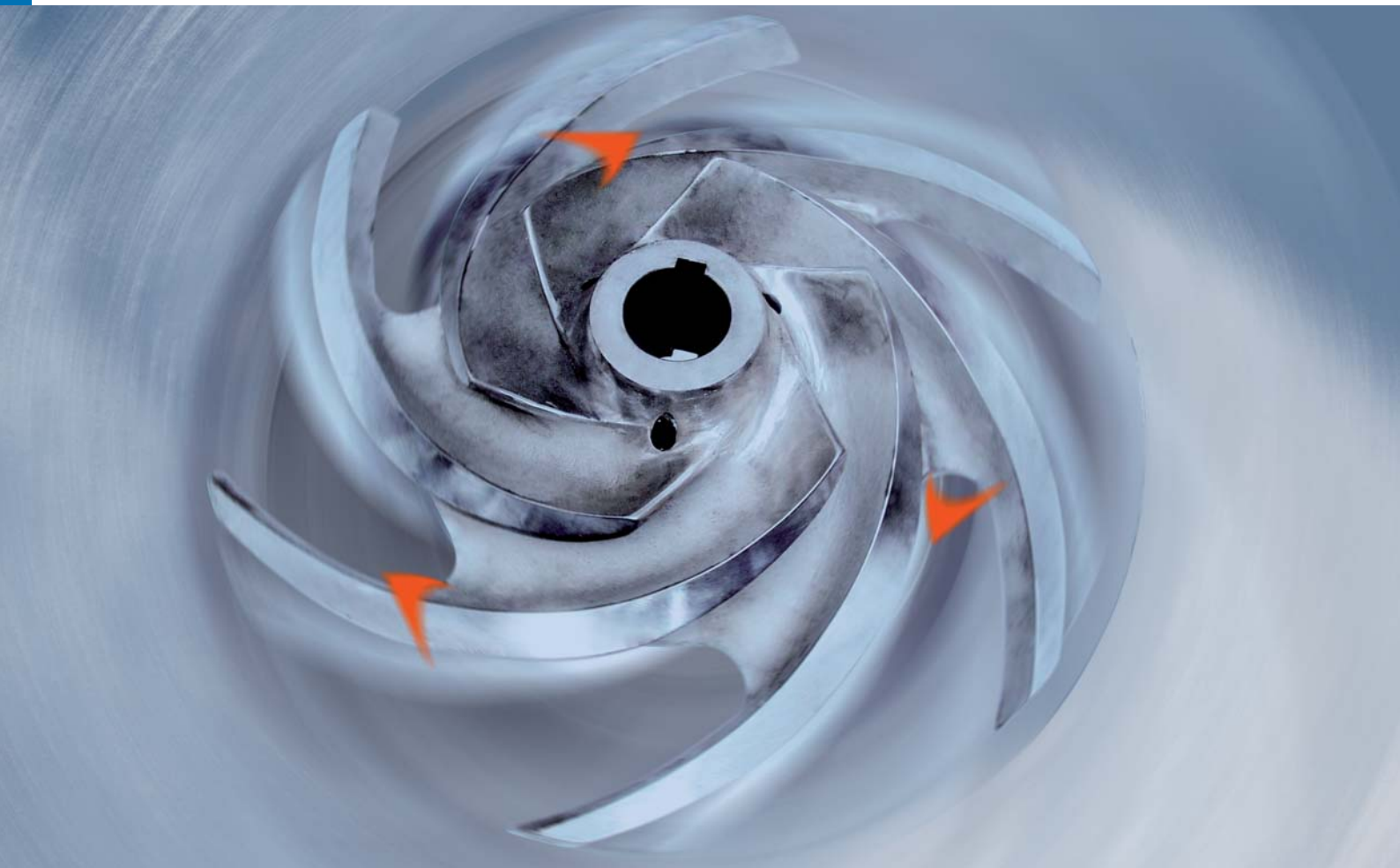


# ANDRITZ Pumps used as turbines

## ACT/FPT Series



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# ANDRITZ Centrifugal Pump as turbine

For over 100 years, ANDRITZ has been a byword for competence and innovation in designing centrifugal pumps.

As a leading supplier of hydraulic machines (pumps and turbines), we are proficient in the technology needed for power stations, water supply facilities and for pulp and paper mills. This enables us to lay the foundation for successful further development of pumps and turbines.

Centrifugal Pumps and Pump Turbines from ANDRITZ are operating successfully all around the world. They offer robustness and wear resistance, thus fulfilling high customer expectations in terms of efficiency, life cycle, ease of maintenance and economic efficiency.

## Modular assembly system

By using standard components, the units have excellent operating availability and can use tried and tested components.

## Media:

- Drinking water
- Residual and waste water
- Pulp suspensions in the pulp and paper industry

## Applications:

- As recovery turbines e.g. in pulp and paper mills
- In small hydropower plants
- To supply energy, e.g. to mountain refuges and forest lodges

## The facts:

- **Flow rates**  
up to 0.8 m<sup>3</sup>/s (ACT Series)  
up to 6 m<sup>3</sup>/s (FPT Series)
- **Head up to 80 m**
- **Output**  
up to 250 kW (ACT Series)  
up to 2 MW (FPT Series)



### Energy recovery in the paper industry

Pressurized and air-saturated waste water is pressure-relieved in the feed pipe to a micro-flotation plant. The energy recovered assists directly in driving a pump.

## Technology to convince you

Decades of experience in building hydraulic machines and comprehensive process know-how form the basis of the ANDRITZ Centrifugal Pumps, ACT and FPT Series, used as turbines.

## Proven open-impeller design

The design of the ANDRITZ Centrifugal Pump, ACT Series, which is used as a turbine, is characterized by open channels and a wear-resistant design that makes the pump insensitive to contaminants when used as a turbine.



### Shaft seal

- Stuffing box packing or single mechanical seal

### Sturdy bearing support

- A single casting consisting of the bearing casing and lantern
- Oil or grease lubrication

### Anti-friction bearings

Long service life due to generous dimensioning!

### Sturdy shaft

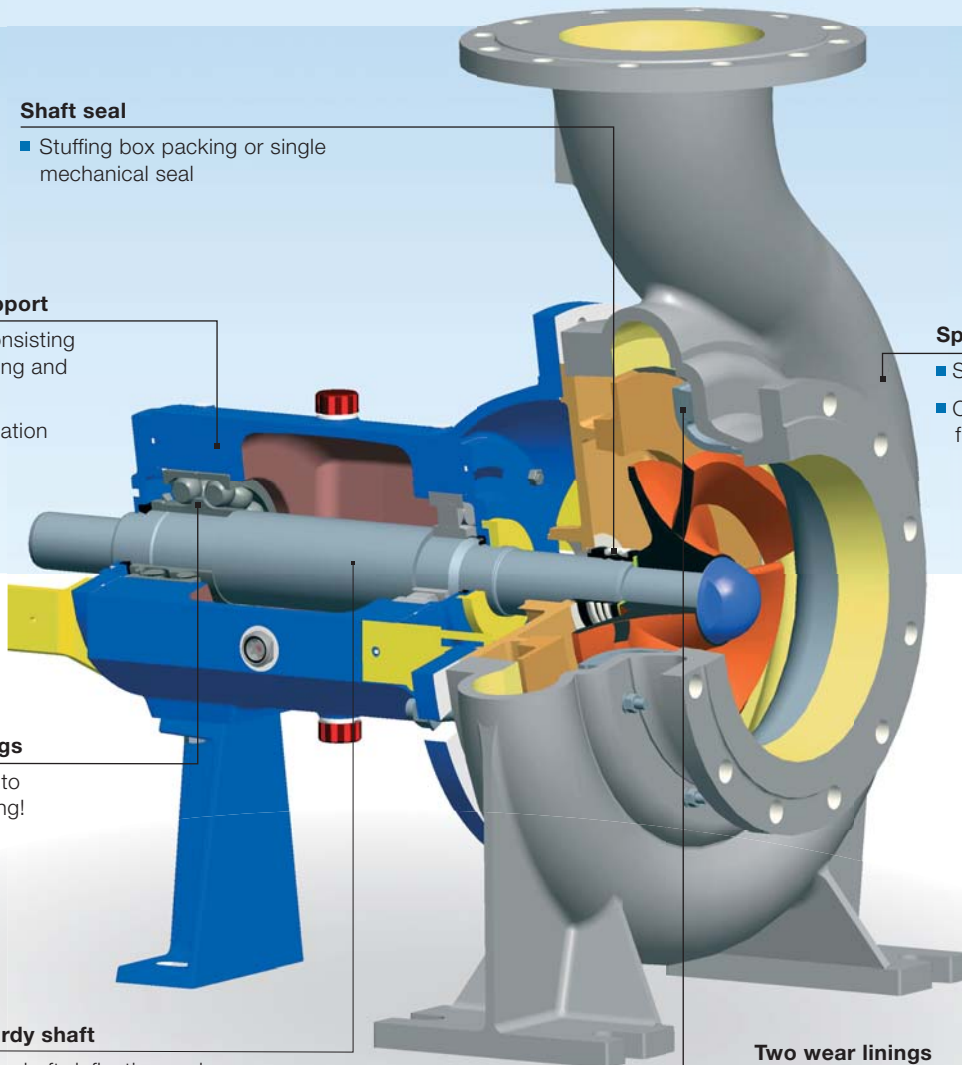
Low shaft deflection and low mechanical vibration!

### Spiral casing

- Sturdy, wear-resistant design
- Can be rotated through 90° for fitting to the delivery pipe

### Two wear linings

Protecting the pump casing and the casing cover



## Electricity from your own plant

This self-sufficiency is offered by ANDRITZ Mini-Turbine Plants, either for personal or for industrial use. The plant has a compact design, suitable for isolated operation and for supplying to an existing power network.

### Turbine

- Wear-resistant spiral casing
- Speed-optimized use

### Control valve

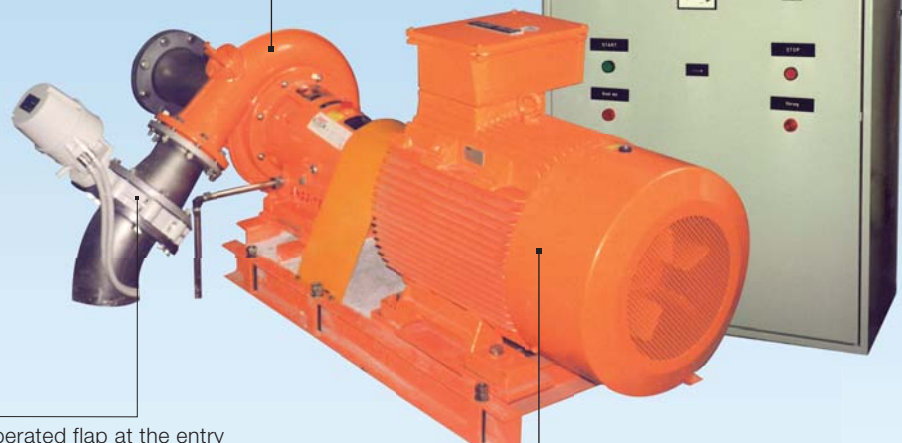
An electrically operated flap at the entry to the turbine regulates the level control and emergency shutdown or serves as a shut-off valve during shutdown.

### Switch cabinet

- Voltage distribution, protection equipment, control electronics, battery and danger warning system

### Generator

- Synchronous (isolated operation) or asynchronous generator (parallel operation)

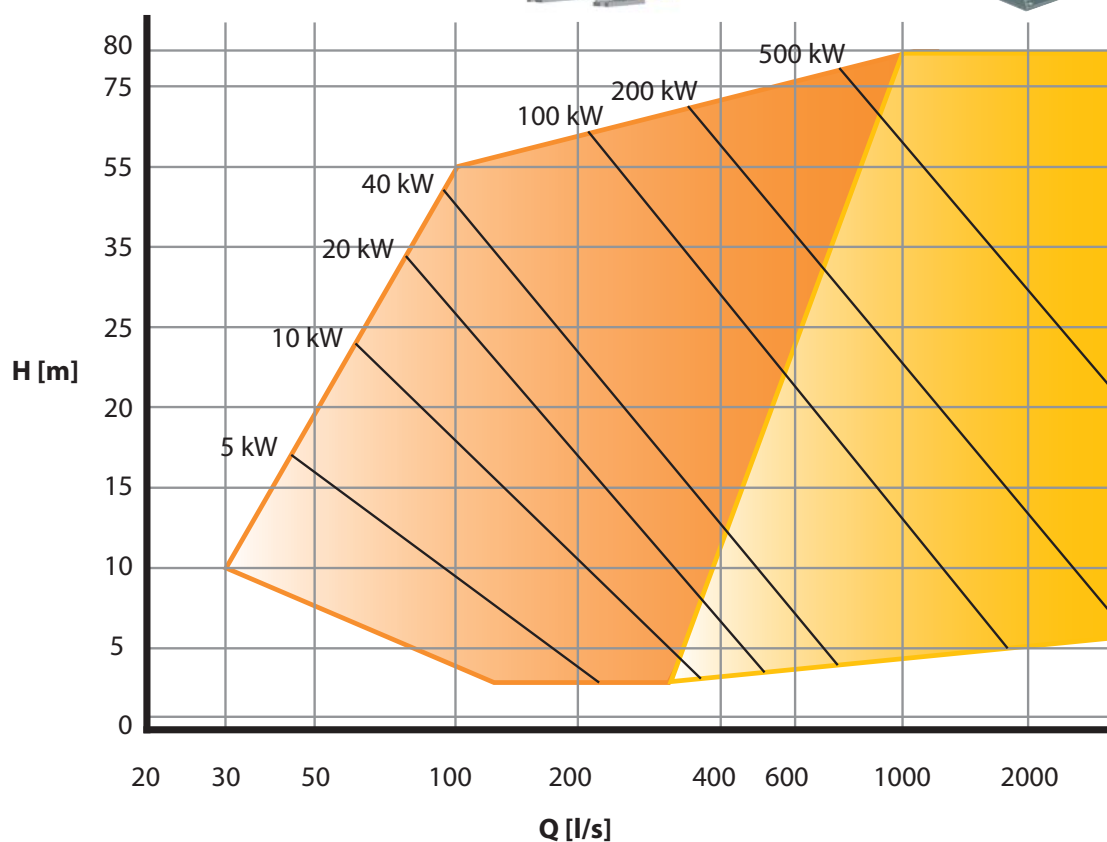


## Scope of services

- Assistance in determining the volume of water available, dimensioning of the power plant
- Consulting on design of the intake structure, the waterway and the power house
- Assistance in planning, construction or rebuilding of the electrical equipment
- Specification of the most economical pipeline
- Installation of ANDRITZ components in existing power or industrial plants

# Performance range

## ANDRITZ Mini-Turbines, ACT/FPT Series



### Material combinations

ACT/ FPT Series	EN-GJL 250	1.4460	1.4021	1.4462	1.4517	1.4517 h	1.4404	1.4439	1.4468
Impeller		■			■				
Casing/casing cover	■	■							
Bearing housing	■								■
Front and rear linings		■				■			
Stuffing box body	■	■							
Shaft			■	■			■	■	

European standard		US standard	
Number	Name	Grade	UNS
EN-JL1040	EN-GJL 250	Class 40B	/
1.4460	X3CrNiMoN27-5-2	Grade 1A	J93370
1.4021	X20Cr13	420	S42000
1.4462	X2CrNiMoN22-5-3	S32205	S32205
1.4517	GX2CrNiMoCuN25-6-3-3	Grade 1C	J93373
1.4517 hardened	GX2CrNiMoCuN25-6-3-3	Grade 1C	J93373



## Close to our customers



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