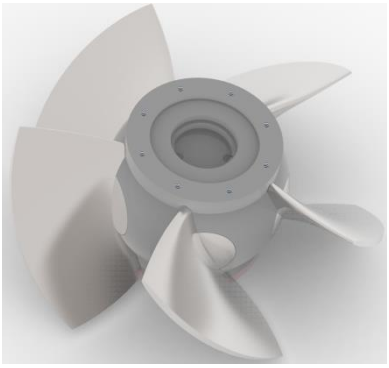
KAPLAN WATER TURBINES

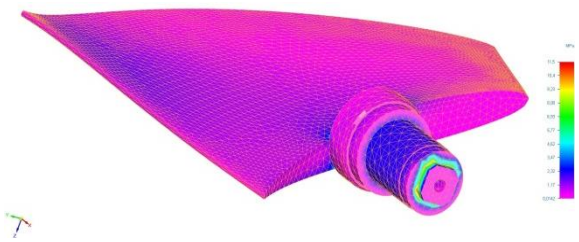
We also specialize in the design and production of Kaplan water turbines (double adjustable by means of the angles of both runner blades and guide vanes) tailored to individual hydrological parameters of a location. Our offer consists of various types of both vertical and axial turbines and of optional configurations - appropriate for a given SHP.

- Horizontal / Vertical in the open chamber
  - Kaplan turbine or propeller
- Horizontal / Vertical in a spiral
  - Kaplan turbine or propeller
- Axial
  - Kaplan turbine or propeller
- Siphon
  - Kaplan turbine or propeller



The process of turbine production starts with the design. In our company each turbine is equipped with individually designed runner blades so that the efficiency of the device is the highest for given parameters of flow and head. In the design process our engineers use the Finite Elements Method (FEM) to examine the strength of mechanical elements. Each newly designed shape of a runner blade is carefully checked and computer-verified prior to sending for production. The shape of a draft tube is designed with the latest computational fluid dynamics (CFD) numerical methods to analyze hydraulics of a turbine to achieve the maximum possible efficiency of a turboset.

The runner blades are made of stainless steel. Each of them is additionally milled in a processing center in order to obtain the most accurate representation of the surface. Guide vanes are produced in the metal casting technology and made of cast iron, bronze or stainless steel - according to the customer's requirements. Movable elements of guide vanes are made of stainless steel.



Each turboset has a fully automated control panel set to gain the maximum momentary power in the function of flow by adjusting the angle of the guide vanes and runner blades. Operating range of devices is from 15 to 100 percent of the installed water discharge - which makes the proposed construction very efficient in the wide range of flows.

ALL TYPES OF KAPLAN / PROPELLER TURBINES - PARAMETERS		
	min	max
Diameter	400 mm	3200 mm
Power	5 kW	-

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KAPLAN WATER TURBINES

GREENEVO
TECHNOLOGY ACCELERATOR

The implementation of Kaplan turbines SHP Nowogrodziec - POLAND

Construction of a new hydropower plant with two Kaplan turbines
The innovative design of the draft tubes:

- *Easy to install draft tubes*
- *Lower investment cost (about 20-30%)*
- *High quality modeling of the draft tubes shape*

Increase in energy production by 30% compared to other offered solutions

PARAMETERS OF SHP Nowogrodziec			
Turbine	1	2	
Diameter	1 550	1 100	mm
Power	200	100	kW
Head	3,5	3,5	m
Flow	7,5	4,2	m^3/s

The individual design of draft tube, guide vanes and runner blades combined with automatically adjusted guide blades and rotor blades assure that a given water flow is exploited with maximum possible efficiency, which translates to the maximum profits for the investor.

hydro ERGIA

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