



# JLA HYDRO



**OUR PASSION,  
YOUR ENERGY !**

EXPERTS IN HYDRO POWER AND RENEWABLE ENERGIES.

**JLAHYDRO.BE**





## OUR COMPANY

**JLA Hydro is a Belgian company specialized in the design, manufacturing, and installation of hydraulic impulse turbines for small-scale hydroelectric power plants.**

JLA Hydro's team of engineers and technicians is specialized in the installation of hydroelectric power plants, whether run-of-river, downstream of dams or as part of water supply systems.

JLA Hydro develops innovative hybrid solutions for smart grids, bringing clean and sustainable energy to businesses and local communities.

Our turnkey solutions can be adapted to installations connected to an existing electricity grid and mini grids, ensuring reliable, high-performance energy production.

With its expertise and global experience, JLA Hydro is actively committed to rural electrification by offering green, sustainable, and accessible energy solutions to all.



## OUR VISION

At JLA Hydro, we have been committed for many years to a responsible approach through the development of hydroelectric projects.

We believe it is our responsibility to adopt an energy model that is environmentally friendly in order to preserve it for future generations.

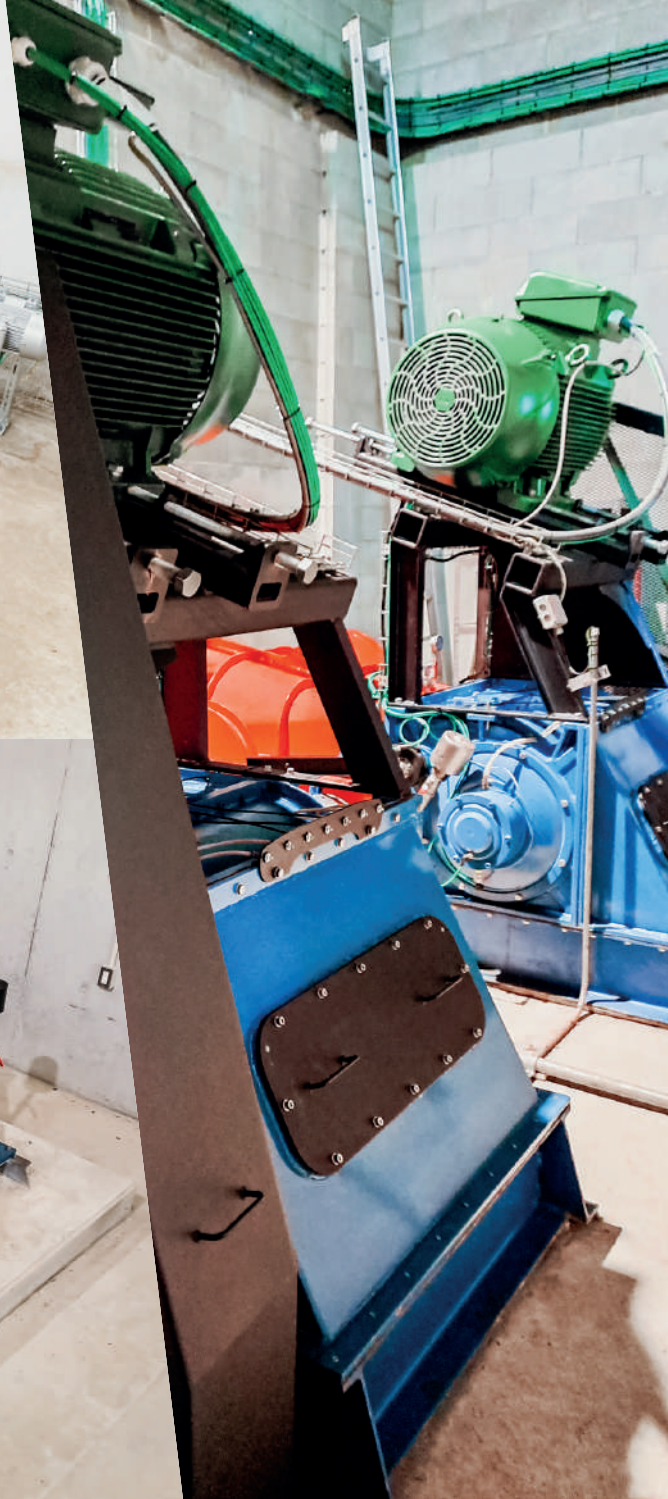
More specifically, we aim to provide reliable energy access to Southern populations by relying on renewable energy sources. Among these, hydropower stands out for its reliability and its stability, and we strive to place it at the heart of our approach for a sustainable energy future.

Our vision is fully aligned with goal #7 of the United Nations Sustainable Development Goals (SDG), which aims to ensure universal access to clean and affordable energy.

To achieve this goal, expanding infrastructure, modernizing technologies, and establishing mini grids are essential steps, particularly for the electrification of rural areas. Our equipment is perfectly suited to meet these challenges.







( 40 )  
YEARS  
OF EXPERTISE

( OVER  
140 )  
INSTALLATIONS

( OVER  
8000 )  
kW  
INSTALLED

( 100% )  
MADE IN  
BELGIUM

Since its beginnings in the 1980s, JLA Hydro has continually progressed and enriched its expertise to offer a complete range of products and services.

JLA Hydro provides complete turbo-generator units to equip power plants undergoing renovation or greenfield sites. The skills of its engineers are put to use to find the best technical solutions based on the site's characteristics and the customer's needs and expectations.





# JLA HYDRO POWER SOLUTIONS

## JLA HYDRAULIC TURBINES

Each site, each river is unique. That's why we design tailor-made turbo-generator units, perfectly suited to the specificities of each project.

All design and manufacturing stages of our turbines are carried out exclusively in Belgium, in our workshops. We ensure rigorous quality control throughout the machining and assembly process.

Our turbines can of course be used to generate electricity but also for various other applications by coupling them to a mechanical receiver such as a pump, a mill, or a sawmill.

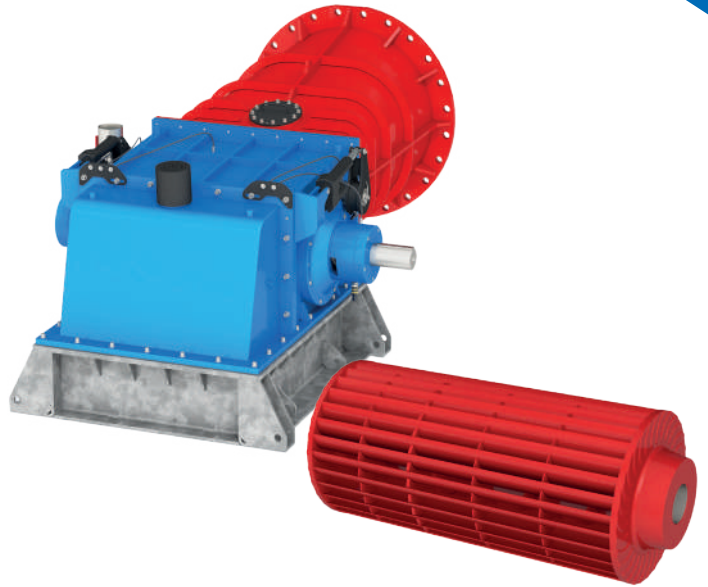
Designed to last, JLA Hydro turbines are built to operate continuously for several decades while requiring minimal maintenance.

**Many customers have been attracted by the ease of installation and maintenance of these high-performance turbines.**

## CROSS-FLOW JLA

JLA Banki / Cross-flow turbines are designed to operate over a wide range of flow rates while guaranteeing a minimum efficiency of 75% to 80%.

In addition to their low runaway speed and robustness, one of the major advantages of this turbine is the relative simplicity of its construction, as there are only two or three moving parts.



Head	2,5 to 80 m
Flow	50 to 1600 l/s
Mechanical power	5 to 400 kW
Rotation speed	100 to 1200 rpm
Water inlet	Horizontal or vertical

## PELTON JLA

JLA Pelton turbines stand out for their simple design and use. These are impulse turbines; ideally suited for medium to high heads.

The main feature of JLA Pelton turbines is the possibility to have up to six on/off injectors, manually operated or motorized, allowing for multiple operating points. This flexibility ensures optimal efficiency at varying flow rates.

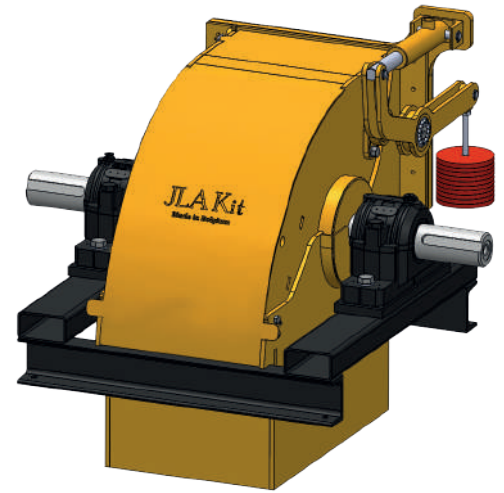


Head	60 to 200 m
Flow	5 to 250 l/s
Mechanical power	5 to 175 kW
Rotation speed	750 to 1800 rpm
ON/OFF injectors	Manually operated or motorized

The JLA Kit is an innovative concept of hydraulic turbine, specially designed to be assembled directly by the buyer, offering excellent value for money. Its uniqueness lies in its kit design, with components that are easy to assemble in a basic mechanical workshop.

The JLA Kit is ideal for sites with power potential below 20 kW, whether for electrical energy production or mechanical drive of small mills, irrigation pumps, and other applications.

Head	3 to 20 m
Flow	40 to 230 l/s
Mechanical power	2 to 20 kW
Rotation speed	200 to 600 rpm
Efficiency	> 70% (down to 50% of nominal flow)
Water inlet	Horizontal



\*For more information regarding JLA hydraulic turbines, please refer to our product datasheets which you can download from our website.

## CONTROL AND AUTOMATION SYSTEMS

**JLA Hydro is the preferred partner for ensuring the electrical connection and automation of your hydroelectric plant.**

JLA Hydro designs, supplies, and installs complete low and medium voltage panels to ensure a secure connection to the user's grid, as well as control systems tailored to the management of hydroelectric or hybrid power plants. Whether your plant is connected to an existing grid, operated as a mini grid, or both, our solutions meet all your needs.

Thanks to our control and remote management systems, our customers maintain full control over their production and all installation parameters. Our intuitive interfaces and monitoring solutions provide easy access for adjusting the plant's operating parameters to meet your needs and requirements.

The solutions offered by JLA Hydro are diverse: they can range from simple systems with almost 100% manual control to fully automated systems.

Our automation systems allow for various regulations such as regulating the upstream water level by controlling the turbinated flow, regulating the turbine speed via the inlet valves control, and frequency regulation for plants operating in mini grids.



## AUXILIARY EQUIPMENT

JLA Hydro offers a range of auxiliary equipment for the construction or refurbishment of your hydroelectric plant, including screens, trash racks, valves, electrical and hydraulic equipment.





# JLA SMART GRID SOLUTIONS

## HYBRID ENERGY SOLUTIONS

JLA Hydro is capable of meeting all its customers' needs by offering innovative hybrid solutions that combine various renewable energy sources, particularly hydropower and solar energy.

From its extensive experience in setting up hydroelectric plants, JLA Hydro can also offer 100% solar solutions of up to several hundred kilowatts, which can be paired with energy storage if necessary.

The hybrid or solar plants installed by JLA Hydro can, of course, benefit from the technical solutions in control and automation that we offer, including remote control and management.

## LOW/MEDIUM VOLTAGE LINES AND ELECTRICAL EQUIPMENT

In projects led by JLA Hydro, the installation of electrical distribution lines plays a crucial role in enabling the entire community to benefit from locally produced green energy.

This is why we offer services for the installation of low and medium voltage electrical lines, including the installation of transformers and protection cells.

JLA Hydro also provides and installs ancillary equipment such as meters, charging stations for cars, bicycles, and motorcycles, or public lighting systems.

## ENERGY MANAGEMENT SYSTEMS

Decentralized green energy production through the installation of a hydroelectric or hybrid power plant is a sustainable way to effectively meet long-term energy needs.

The energy distribution network must be managed optimally to maximize the use of production assets to meet the rapidly evolving energy demand. Proper management and control of an electrical grid is essential when combining and synchronizing various energy production sources.

Maintaining a reliable and secure balance between supply and demand is critical in managing an electrical network. A mini grid is less flexible; any variation in production or consumption must be immediately compensated.

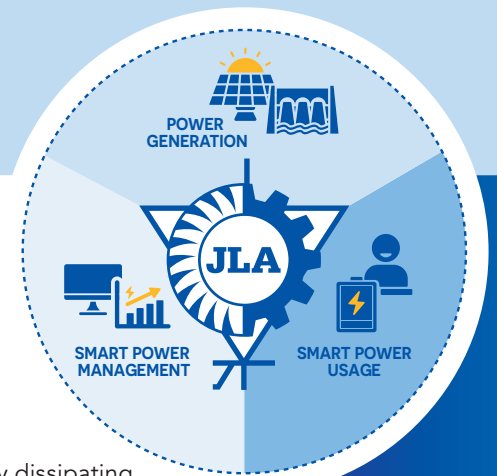
To achieve this, various measures can be implemented, including storage systems or frequency regulation systems, as JLA Hydro can offer.

## REGULATION SYSTEMS

For the installation of turbo-generator units operating as mini grids, JLA Hydro has developed an electronic card for frequency regulation through load control: the Electronic Load Controller.

This system allows for the regulation of the turbo-generator unit's frequency in areas that are not connected to an existing electrical grid. For grid-connected sites, this solution helps limit overspeed in the event of grid disconnection.

Regulation is primarily achieved by dissipating energy using an electrical load bank, also known as a «ballast.» This approach ensures highly accurate frequency regulation, even during rapid load variations on the user network.







# JLA SERVICES

*Our experts have many years of experience in the design, manufacturing, and installation of electromechanical and hydroelectric equipment. This expertise has been put to use on numerous projects across various regions of the world.*

## **JLA Hydro offers their expertise for the completion of the following tasks:**

- ▼ Technical feasibility studies (topographic surveys, flow measurements, equipment selection, etc.)
- ▼ Management and planning of micro-hydroelectric projects
- ▼ Rehabilitation of hydroelectric plants up to 1 MW
- ▼ Training in the management and maintenance of hydroelectric plants
- ▼ Electromechanical equipment expertise
- ▼ Operation and maintenance of hydroelectric plants
- ▼ Recommendations for the design of civil engineering structures
- ▼ Installation and commissioning of all types of electromechanical equipment







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