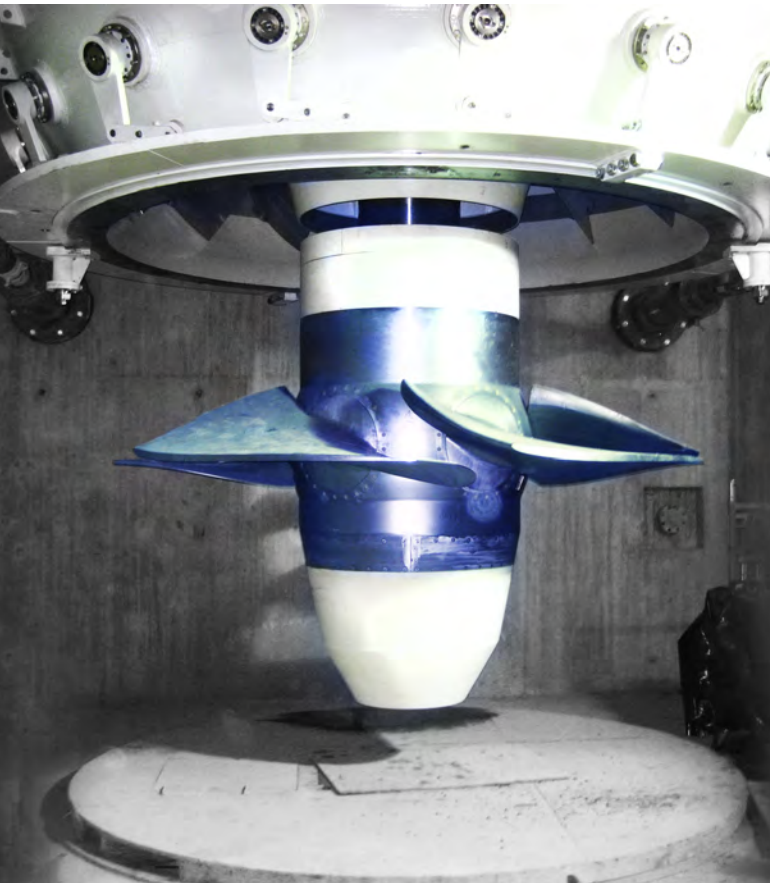


KAPLAN IS IN OUR BLOOD

From the Kaplan heritage heirs
State of the art design
Classical plus Bulb and Saxo applications



KAPLAN/POPELLER RUNNERS

Propeller-type Kaplan turbine is a fixed-blade Kaplan turbine, which can be installed where small variation of flow through the turbine is expected and, in particular, on hydropower plants equipped with 4 or more units of the same type.

Litostroj Power Group unites tradition and experience with top quality European production of Kaplan runners. All our Kaplan runners are designed, tested, manufactured and assembled under one roof – in the very heart of Europe, using just materials produced in Europe.

Types:

- Fixed Blade
- Aerial Flow
- Mixed Flow

Main features:

- Heads from 5 m up to 75 m
- Wide range of heads and discharges
- Outputs up to 110 MW
- Runner diameters up to 9,3 m

Litostroj Power has a long history of designing, manufacturing and supplying Kaplan runners for new as well as refurbished Kaplan and bulb units worldwide. Kaplan runners are designed, manufactured and tested in Litostroj Power workshop in Ljubljana, Slovenia.

For different HPP's we develop new or optimize existing hydraulic profiles using modern development tools. The hydraulic shapes used in our designs are model tested, therefore Litostroj Power experience no cavitation related issues while supplying competitive solutions and achieving highest and wide runner efficiency curves.

**WATER-TO-WIRE
SOLUTIONS**

NEW INSTALLATIONS

**REHABILITATIONS
AND OVERHAULS**

UPGRADES

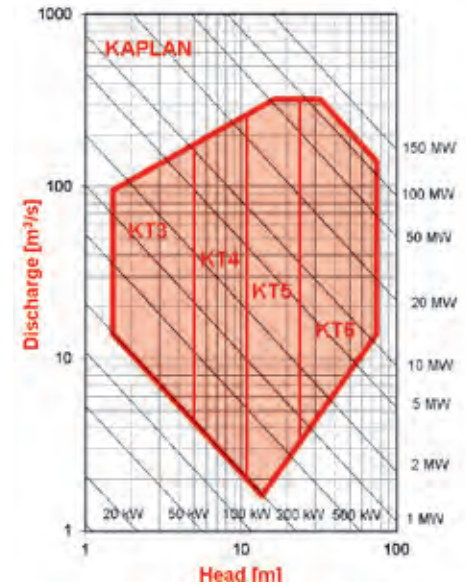
**HYDRAULIC
MODEL TESTING**



IN DEVELOPMENT, DESIGN AND MANUFACTURING, VARIOUS NEWLY DEVELOPED METHODS, CONTEMPORARY MATERIALS AND TECHNOLOGIES ARE USED IN ORDER TO MEET FINAL PRODUCT REQUIREMENTS REGARDING POWER PRODUCTION, LIFE EXPECTANCY AND EASE OF MAINTENANCE.

Depending on discharge and head, three to six blade Kaplan runners are available to cover the application range.

Upon different customer requirements, Litostroj Power has several runner mechanism designs available covering Traditional Oil filled Kaplan runners and ECO friendly solutions to eliminate the possibility of oil leak into the water passage. The later solutions are available in two variants with water filled and empty Kaplan runner hubs.



For unit flexible operation and participation of Kaplan units within grid frequency primary control, we suggest a delivery of advanced Litostroj Power governor system. Our governor system meets latest requirements for frequency primary control response while reducing the influence on the Kaplan runner lifetime expectancy and maintenance requirements.

The Kaplan runner mechanism design can optionally be designed to enable changing of all runner mechanism bearings while unit remains installed in place.

Our tradition, knowledge and experience as well as quality assurance and quality control policies applied during design and manufacturing process, enables Litostroj Power to deliver the state-of-the-art Kaplan runner solutions that are capable of meeting today's operational requirements.



Prof. Viktor Kaplan lived and worked between 1903-1934 in Brno, the Czech Republic. During that time he collaborated with predecessor of Litostroj's today's design team from Blansko.

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