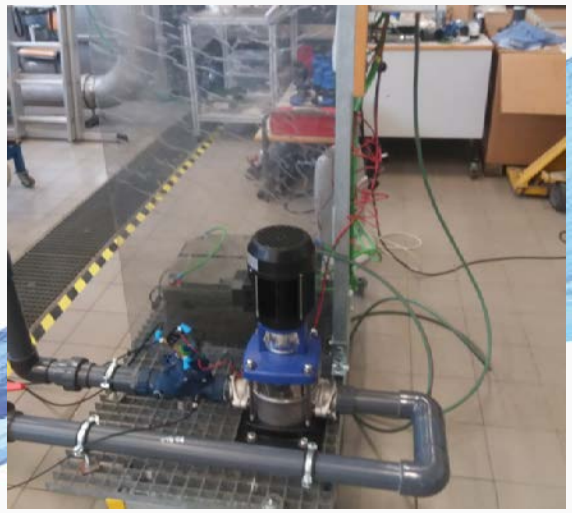
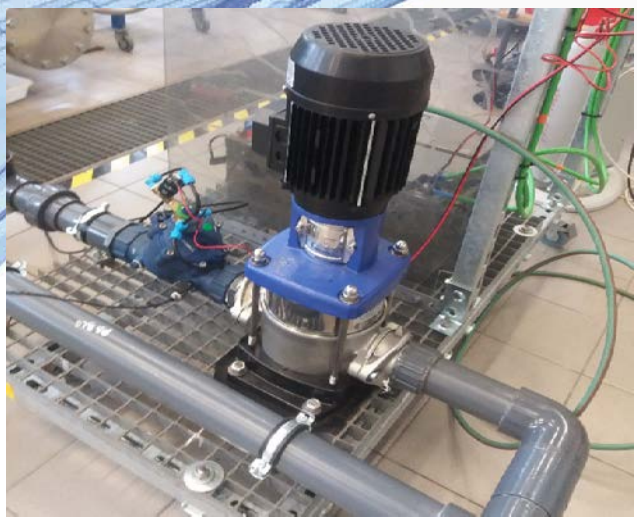
POWERTURBINES
ENERGY FROM WATER

INSTALLATION EXAMPLE: HYDRAULIC LABORATORY (SPAIN)





GENERAL INFORMATION:

- VALENCIA (ESPAÑA)
- PRESSURE DROP: 15 METERS
- FLOW RATE: 6,5 LITERS/SECOND
- GENERATED POWER: 375 W
- SELF-CONSUMPTION BATTERY CHARGING TURBINE

BACKGROUND

The Department of Rural and Agricultural Engineering of the Polytechnic University of Valencia has an Hydraulic and Irrigation Laboratory (LHIR) used for research and teaching tasks. Said laboratory has a closed circuit equipped with impulsion pumps that supply a high tank, which can also be fed by solar pumping.

THE SOLUTION

Thanks to the installation of the turbine, energy is generated from the discharge of the elevated tank, which can be filled from pumps fed from the electrical grid or by solar pumping. The objective is to analyze the use of a PAT (pump as turbine) as a source of renewable energy in drinking water and irrigation distribution networks. Also, show its operation and possible applications during teaching practices of the engineering students.