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Product Name :	**Product Code :**
Pelton Turbine Test Rig	NLAB-MECHANICALAB220019

Description :

Pelton Turbine Test Rig

Technical Specification :

The developed experimental unit consists of the Pelton wheel, a needle nozzle used as distributor, a band brake for loading the turbine and a housing with a transparent front panel. The transparent cover enables to observe the water flow, the Pelton wheel and the nozzle during operation. The nozzle cross-section and thus the flow rate are modified by adjusting the nozzle needle.

The turbine torque is determined by force measurement on a band brake and is read on spring balances. For measuring the rotational speed, a non-contact speed sensor.

The water jet is accelerated in a nozzle and hits the Pelton wheel tangentially. In the blades on the circumference of the Pelton wheel the water jet is deflected by approximately 180°. The impulse of the water jet is transmitted to the Pelton wheel.

This accessory comprises a miniature Pelton wheel with spear-valve arrangement mounted on a support frame, which fits on to the Hydraulics Bench top channel. Mechanical output from the turbine is absorbed using a simple friction dynamometer.

tourbo Machinery lab equipment

Basic principles of the Pelton turbine may be demonstrated and, with appropriate measurements, power produced and efficiency may be determined.

FEATURES:

Turbine to place upon the hydraulic bench top service unit

Illustrative model of a Pelton turbine

Turbine wheel inside cast housing with acrylic panel to enable viewing

Mechanical torque measured using dynamometer with spring balances

Manometer shows pressure at turbine inlet

Evaluation of measuring values and characteristics based on the theory

Quick-release fitting for easy connection to Hydraulics Bench

Educational software available as an option

SPECIFICATIONS:

Pelton turbine

Speed range: 0-2000 rpm

Brake power: 10W

Pressure gauge range: 0-25m H2O

Force balance range: 0-20N x 0.2N

Number of Pelton buckets: 16

Diameter of Pelton wheel: 123mm

Power required: 230v, 50hz, 1ph

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