

Product Name :
Pelton Turbine Test Rig

Product Code :
CHINAELABC2600008



Description :

Pelton Turbine Test Rig

Technical Specification :

The Pelton Turbine Test Rig 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.

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:

Pressure gauge range: 0-25m H₂O

Number of Pelton buckets: 16

Diameter of Pelton wheel: 123mm

Force balance range: 0-20N x 0.2N

Power required: 230v, 50hz, 1ph

Pelton turbine :

Speed range: 0-2000 rpm

Brake power: 10W



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