

Product Name :
Pelton Turbine Test Rig

Product Code :
TOURBO SUK-AS03LAB012



Description :

Pelton Turbine Test Rig

Technical Specification :

The designed and 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.

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

DIMENSIONS AND WEIGHT:

- LxWxH: 1000x800x1200mm
- Weight: approx. 90 kg



Astra Scientific

www.astrascientific.com, **Email:** info@astrascientific.com

Address: K-88, 20th Street, Annanagar, Chennai, India – 600040 **Phone:** +91-8860605265