



Fluid Mechanics

MFP101b

Pelton Wheel (Turbine)

Turbine for use with the Centrifugal Pump Module (MFP101)



- Optional turbine that fits on the Turbine Dynamometer (MFP101a) of the Centrifugal Pump Module (MFP101)
- Impulse turbine
- Variable spear jet
- Clear viewing window
- Flexible inlet pipe with inlet pressure tapping

MFP101b

Pelton Wheel (Turbine)

Description

The Pelton Wheel is an impulse turbine with tangential flow (the water hits its wheel at a tangent). It is good for applications with high pressure (head) and low flow.

It has a large wheel or 'runner' that has 'buckets' (turbine blades) that absorb the energy in the water. The buckets are in pairs to correctly balance the wheel and to work efficiently. The Pelton Wheel has a variable spear jet at its inlet. This allows students to understand the effect of changing the velocity of the water that hits the buckets. A clear viewing window on the side of the turbine allows students to see how the turbine works.

Standard Features

- Five-year warranty
- Made in accordance with the latest European Union directives

Experiments

- Variation of turbine performance with inlet pressure and flow rate
- Variation of turbine performance with speed
- Non-dimensional performance characteristics

Essential Base Unit

- Centrifugal Pump Module (MFP101) (with Universal Dynamometer MFP100)

Essential Ancillary

- Turbine Dynamometer (MFP101a)

Operating Conditions

Operating environment:
Laboratory

Storage temperature range:
-25°C to +55°C (when packed for transport)

Operating temperature range:
+5°C to +40°C

Operating relative humidity range:
80% at temperatures < 31°C decreasing linearly to 50% at 40°C

Specifications

Nett dimensions and weight:
550 mm x 230 mm x 240 mm and 10 kg

Other features:

- 150 mm brake drum to fit in the Turbine Dynamometer
- Flexible inlet pipe with inlet pressure tapping.
- Variable Spear Jet - 16 turn adjustable control
- 16 'buckets'
- Maximum shaft power - Approximately 185 W

Note: The Pelton Wheel Turbine creates over 85 dB(A) of noise. You must wear ear defenders when you use it.

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