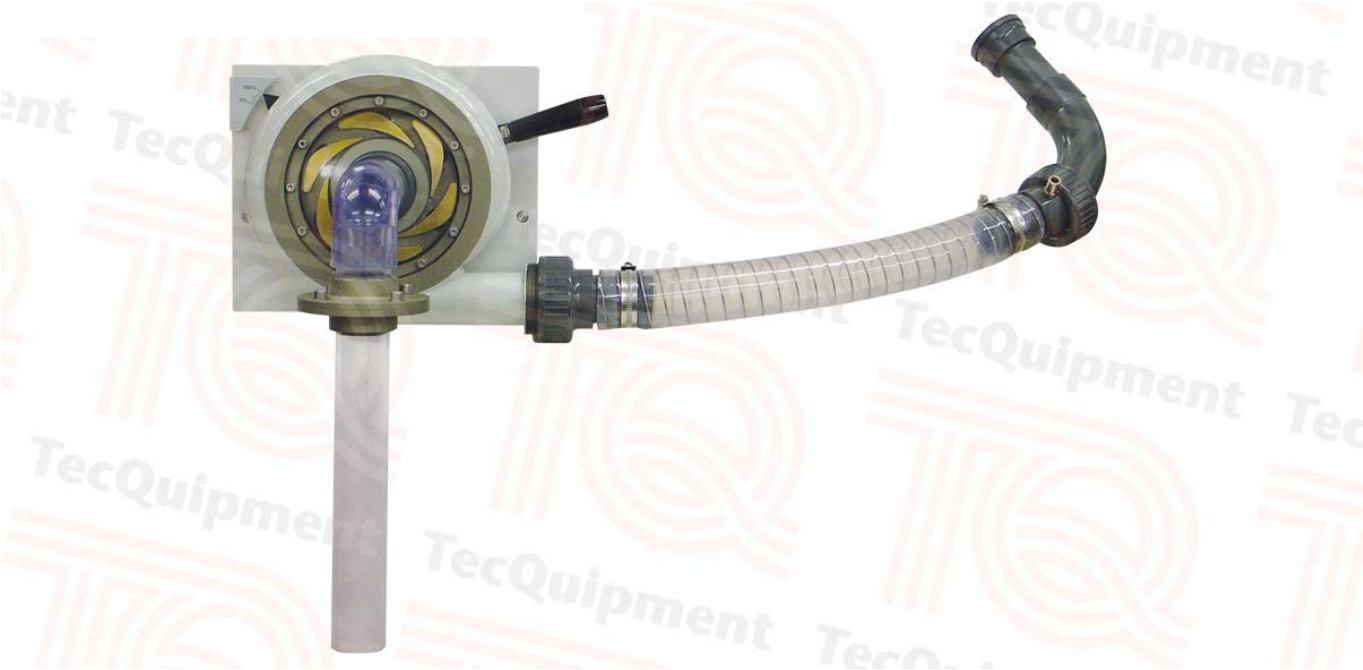
MFP101d

Francis 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)
- Reaction turbine
- Ten-blade runner
- Fully adjustable guide vanes
- Clear viewing window and draft tube
- Flexible inlet pipe with inlet pressure tapping

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Description

The Francis Turbine is a reaction turbine. It is the most common turbine in the world, due to its ability to work for a wide range of applications. Its moving part (runner) is a radial impeller.

The turbine has adjustable guide vanes that control the water flow in the turbine. They also direct the water at an angle to the blades of the impeller. Students learn how the guide vane setting affects how the turbine works. The turbine has a clear viewing window and draft tube so that students can see the turbine working.

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:
400 mm x 230 mm x 320 mm and 11 kg

Other features:

- 150 mm brake drum to fit in the Turbine Dynamometer
- Flexible inlet pipe with inlet pressure tapping
- 10 blade runner
- Six guide vanes - adjustable from 0 to 100%
- Maximum shaft power - Approximately 150 W