

Product Name :
Demonstration Francis Turbine**Product Code :**
ALABS-A43-046**Description :****Demonstration Francis Turbine**

- Francis runner surrounded by 6 guide vanes inside PVC volute with clear acrylic front panel for visualisation
- Guide vanes adjustable when turbine is running with scale to indicate degree of opening and clamp to prevent movement
- Francis runner 60 mm diameter with 12 blades
- Brake force determined using Prony type brake dynamometer
- Inlet pressure gauge with range 0 to 2 bar
- Educational software as an option

Description :

A tapering, spiral shaped volute conveys water to the runner via a ring of guide vanes that are adjustable in angle to vary the flow through the turbine. Water enters the runner

tangentially at the periphery, flows radially inwards through the blades towards the hub then exits axially via a draft tube.

Power generated by the turbine is absorbed by a Prony friction brake consisting of a pair of spring balances attached to a brake belt that is wrapped around a pulley wheel driven by the runner. The load on the turbine is varied by tensioning both spring balances which increases the friction on the pulley wheel. Brake force is determined from the difference in the readings on the two spring balances and the torque calculated from the product of this force and the pulley radius.

The head of water entering the turbine is indicated on a Bourdon gauge and the speed of rotation is measured using a non-contacting tachometer (not supplied).

Technical Details:

Value

Speed 1000 RPM

Diameter of Francis runner:

Number of blades on runner:

Adjustable guide vanes open to fully closed

Range of spring balances:

Range of Bourdon gauge:



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