

Product Name :
Astra Scientific Osborne Reynolds Demonstration

Product Code :
Fluid Mechanics Lab0025



Description :

Astra Scientific Osborne Reynolds Demonstration

Technical Specification :

DESCRIPTION:

The designed Osborne-Reynolds experiment is used to study the characteristics of a liquid flow through a pipe. It is also used to determine the Reynolds number at each state of the liquid.

This module makes it possible to study the characteristics of the flow of a liquid inside a pipe and the behavior of such flow. Besides, it is possible to determine the range of the laminar and turbulent flows using the Reynolds number. Thus, difference between laminar, turbulent and transition flows can be demonstrated and the Reynolds number can be calculated for each regime.

This module consists on a transparent and horizontal pipe section, which makes it possible to visualize the fluid, a water supply tank, which guarantees the flow homogeneity, and a

needle connected to a tank through a hose, from where the dye is supplied. Water flow in the test section can be regulated by means of a valve. Water can be supplied either using the Hydraulics Bench or from the Basic Hydraulic Feed System.

FEATURES:

- Observation of laminar, transition and turbulent flows.
- Association of laminar, transition and turbulent flows with their corresponding Reynolds number.
- Observation of the parabolic velocity profile.
- This module is mounted on an anodized aluminum structure with painted steel panel.
- Methacrylate test pipe with an airfoil-shaped inlet section:

SPECIFICATIONS:

- Inner diameter: 16 mm. External diameter: 20 mm. Length: 750 mm.
- Water supply tank with level fitting and connection for it's feeding. It has a section that makes it possible to generate a constant pressure at the tank inlet. Capacity: 2.4 ltr.
- Dye or vegetable coloring tank with a valve and an injection needle, tank capacity: 0.4 ltr.
- Coloring matter injection is regulated with a needle valve. Control valve to adjust the water flow in the experiments.
- Easy and quick coupling system built-in.



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