

Product Name :
Astra Scientific Centrifugal Pump Test Bed

Product Code :
Fluid Mechanics Lab0006



Description :

Astra Scientific Centrifugal Pump Test Bed

Technical Specification :

DESCRIPTION

The advanced Centrifugal Pump Test Rig is a self-contained unit operated on closed circuit basis containing a sump tank. The set-up consists of a Centrifugal pump coupled with a DC Motor. Power input to the DC Motor is varied by means of a Thruster controlled DC Drive to vary the RPM of motor. A RPM Indicator with Proximity sensor indicates the RPM of Pump. Flow of water is measured by using measuring tank and stopwatch. Vacuum gauge is fitted on suction line and Pressure gauge is fitted on delivery line to measure the pressure.

Centrifugal pumps are turbo machines that are used for conveying fluids. The unit can be used to study a centrifugal pump and to record a typical pump characteristic curve.

The experimental unit includes a self-priming centrifugal pump, a ball valve on the outlet side and manometers on the inlet and outlet side. An asynchronous motor drives it. The speed is infinitely adjustable by using a frequency converter. A ball valve is used to adjust the head.

The experimental unit is positioned easily and securely on the work surface of the pump draws in water from the tank on the flow rate is determined volumetrically by flowing back into the measuring tank.

FEATURES

- Characteristic curve of a centrifugal pump
- Investigation of a centrifugal pump
- Drive with variable speed via frequency converter
- Ball valve to adjust the head
- Manometers on the inlet and outlet side of the pump
- Digital display of speed and power
- Measuring the inlet and outlet pressure
- Determining the flow rate
- Recording the pump characteristics for different speeds
- Power and efficiency curves
- Measuring the electrical drive power
- Determining the hydraulic power
- Calculating the efficiency

SPECIFICATIONS:

- Centrifugal pump, self-priming

Max. Flow rate: 3000L/h

Max. Head: 36,9m

- Asynchronous motor

Nominal power: 370W

- Measuring ranges

Pressure (outlet side): -1...5bar

Pressure (inlet side): -1...1,5bar

Speed: 0...3000min⁻¹

Power: 0...1000W

- 230V, 50Hz, 1 phase



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