



### DESCRIPTION:

The experimental set up consist of two circular transparent cylindrical tanks. One tank is connected to a plate which is rotated with the help of a variable speed motor so that the cylinder rotates about its vertical axis with the help of a V belt and forced vortex is formed. The other tank consist of four circumferential jets are placed along the circumference of the cylinder near its bottom which helps in the formation of free vortex. An upper probe included in both the tanks can be transversed horizontally & vertically across full diameter of the vessel so that water surface profile can be measure. Both axes contain graduations so that exact position of the probe is known. The experimental procedure involves measurement of the resulting free surface that represents the variation of the sum of the pressure head and datum head. An arrangement is provided in both the tanks to drain the vessel. Height measuring sensor , flow sensor and rpm sensor is given for data acquisition and can be analysed on PC with usb connection with the help of software.

### Technical Details:

- Cylinder: Material Acrylic. Dia. 200 mm (approx.), Qty -2
- Height : 200mm approx.
- Pump: FHP Capacity
- Motor: Variable Speed, DC Motor, Compatible capacity.
- Flow Measurement: Using Rotameter
- Sump Tank: capacity 70 litres
- Orifice: set of 3 different sizes, Material SS
- Flow sensor: 0 to 50 LPM
- LVDT: for height measurement
- RPM: for speed measurement
- Control Panel: Speed Control Unit, Standard make On/Off Switch, Mains Indicator, etc.
- Instruction Manual: An ENGLISH instruction manual will be provided along with the

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



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Apparatus

- The whole set-up is well designed and arranged in a good quality painted structure.

**Experiment:**

- visualization of various vortices
- investigation of free and forced vortices
- representation of surface profiles
- determination of velocity

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