



Product Code . JL-ELA-5513

Forced Vortex Flow

Description

Forced Vortex Flow

Forced Vortex Flow is an example of rotational flow and can be generated by rotating a cylinder containing a fluid about its axis or by rotating a paddle in a large volume of fluid.

Under steady conditions, each particle will move with the same angular velocity and there will not be any relative motion between fluid particles.

Streamlines for such a flow will be concentric circles and the total energy is constant along a streamline but varies from one streamline to another.

Scope Of Experimentations:

Fill the cylinder with water to about one half of its height Rotate the cylinder with constant and reasonably fast speed.

The free surface of the water takes the form of a parabolic profile Measure the speed of rotation When conditions become steady, take the surface profile readings by traversing the Pitot-static tube, immersed just beneath the water surface along a radial line.

The surface elevation at r_0 is taken as the datum for all these readings

Now for the second run, speed from motor has been changed and again at steady state, take the surface profile readings

Utilities Required: Power supply: Single Phase, 220 volts, 50 Hz, 5 Amp with earth Water Supply Drain

Technical Details:

Do not run the pump at low voltage i.e. less than 180 Volts Always keep apparatus free from dust

To prevent clogging of moving parts, pump at least once in a fortnight Frequently Grease/Oil the rotating parts, once in three months Always Use Clean Water If the Apparatus is not in use for more than one month, drain the apparatus completely, and fill pump with cutting oil Forced Vortex Flow lab equipment manufacturers, exporters and Forced Vortex Flow Lab suppliers.

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