

KFM-10 Free & Forced Vortex Tube

Specifications:

- 0.5 HP Monoblock
- Universal Motor
- Acrylic Vessel Ø 200 x 300mm
- Supt tank 1000 x 300 x 400 mm
- Measuring Tank 300 x 300 x 500mm

Forced Vortex Flow-

Forced vortex flow is one in which the fluid mass is made to rotate by means of some external agency. The external agency is generally the mechanical power which imparts a constant torque on the fluid mass. Then, in such a flow there is always expenditure of energy. The forced vortex motion is also called flywheel vortex or rotational vortex.

Examples -

- Rotation of water through the runner of a turbine;
- Rotation of liquid inside the impeller of a centrifugal pump.

- Rotation of liquid in a vertical cylinder.

Free Vortex Flow -

Free vortex flow is one in which the fluid mass rotates without any external agency. The whole fluid mass rotates either due to fluid pressure itself or the gravity or due to rotation previously imparted. The free vortex motion is also called potential vortex or ir-rotational vortex.

Examples -

- Flow around the circular bend.
- A Whirlpool in a river.
- Flow of liquid in centrifugal pump casing after it has left the impeller.
- Flow of water in a turbine casing before it enters guide vanes.
- Flow of a liquid through a hole provided at the bottom of a vessel.



KFM-11 Pitot Tube Apparatus



Specifications:

- The Unit should consist of
 - 1) Pitot tube for 1" pipe line
 - 2) Pipe Line for Pitot tube
 - 3) 0.5 HP High Head Monoblock.
- 300mm height Differential Manometer
- Measuring Tank: 300 x 300 x 500 mm
- Supply Tank : 1000 x 300 x 400 mm
- Instruction Manual.

KFM-12 Rotameter Test Rig.

Specifications:

- 0.5 H.P. pump to circulate water through the piping.
- Sump tank : 1000 x 300 x 400 mm
- Measuring tank : 300 x 300 x 500mm
- Rotameter of range 250 to 2500 LPH.

This is a simple and cheaper method

of flow measurement. Mainly this system is used for calibrating other instruments.

Range of Experiments:

- To check rotameter flow readings for discharge by comparing the discharge in the measuring Tank.
- To study rotameter and observe if working.

