



Tesca Vortex Flow Meter makes it possible to study different methods of volumetric and mass flow measurement, as well as to compare continuous and intermittent methods. This module includes two continuous and two intermittent methods to carry out the experiments. The continuous methods include a vortex flowmeter and a variable-area flowmeter (or rotameter). A series of oscillating vortices, where the oscillating frequency is proportional to the flow rate, are generated in the vortex flowmeter. Dye or colouring is used to visualize such vortices. Intermittent methods include the measurement of volumetric and mass flows. A precision scale is used to measure the mass flow and compare the measurements. The water supply may be provided either from the Hydraulics Bench 32096

Specifications:

1. Structure of anodized aluminum and panels of painted steel.
2. PVC pipe to connect to a water supply of the Hydraulics Bench 32096
3. Needle valve to control the flow at the pipe inlet.
4. Vortex flow meter with flow oscillation made

Note: Specifications are subject to change.

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visible by dye injection.

5. Variable-area flow meter (rotameter), range: 150-1600 l./min.
6. Two regulating ball valves to control the flow in the vortex and variable-area flow meters.
7. Water tank at a constant height and connection for its drainage, capacity: 2.4l.
8. Dye or colouring tank with control valve, capacity: 0.4 l.
9. A control ball valve to regulate the flow at the pipe's outlet.
10. Quick connection system.
11. A digital precision balance, range: 0-2000 gr., graduated at 1 gr. Graduated glass vessel with a capacity of 2 l. Easy and quick coupling system built-in.

List of Experiments:

1. Study and experiments with a vortex flow meter.
2. Study and experiments with a variable area flow meter.
3. Measurement of volumetric volume flow rate.
4. Measurement of gravimetric volume flow rate.
5. Comparison of methods on several volumetric and mass flow measurements.
6. Flow meters calibration.
7. Comparison among different flowmeters.

Services Required:

- Hydraulics Bench 32096)
- Vegetable colouring
- Chronometer.