



Tesca Water Reservoir and Surge Tower Apparatus consists of two identical reservoirs connected in series. The lower reservoir supplies a pipe which terminates in a surge tower with a flow control valve and a shut-off valve. Water flows into the upper reservoir through a 50 l/min flowmeter and, when the level has reached the necessary height, flows over a weir into the lower reservoir. Water levels in the reservoirs are measured by pressure transducers connected to a pen recorder allowing the weir and flowmeter to be calibrated.

Tesca Water Reservoir and Surge Tower Apparatus is useful to demonstrate the use of reservoirs for water storage and flood control and to demonstrate the use of a surge tower as a

Note: Specifications are subject to change.

### **Tesca Technologies Pvt. Ltd.**

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means of minimizing pressure transients in a penstock.

Tesca Water Reservoir and Surge Tower Apparatus enables an understanding of:

- Unsteady flow theory.
- The continuity principle used in hydrology for flood routing. &
- The equation of motion applied to mass oscillations occurring in pump and hydro-power turbine installations.

#### **Experiments:**

1. Mass continuity in unsteady systems.
2. Flood routing and reservoir inflow and outflow hydrographs.
3. Surge in a pipe and mass oscillation in a surge tower.

#### **Instrumentation:**

- Pressure transducers for water level in reservoirs
- Pressure transducer for water level in surge tower
- Variable gap flow meter

#### **Technical Specification:**

Reservoirs: 0.9 m x 0.9 m x 0.3 m

Surge Tower: 63 mm diameter, 1.8 Meters Height.

#### **Services:**

Power: 220 – 240V / 50Hz, Single Phase AC

Water: Pressure: 0.5 bar minimum; Flow rate: 50L/min; Inlet: 20mm Ø.