



### Features:

- Numerous different pipe systems possible
- Plastic pipes with different connecting fittings<sup>1</sup>
- Determination of pressure losses at different fitting and pipe arrangements

A common problem in the installation of pipe-work is the determination of pressure and flow rate in complex pipe systems. Tesca Basic Pipes Network Tutor facilitates the setting up and investigation of different types of pipe systems, for instance, series and parallel configurations of pipes, their branches, and joints. Analogous to Kirchoff's laws in electrical engineering, the pressure in the pipes corresponds to the electrical voltage, the pressure losses to the electrical resistances. Node analyses can be performed. The pipe systems can be assembled on the top of the experimental module using the pipes and connecting fittings supplied. The experimental module includes a closed water circuit with a supply tank and pump, and a tank for volumetric flow rate measurement. Two-tube

Note: Specifications are subject to change.

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

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manometers with different measuring ranges are included for pressure measurements.

### Experiments:

1. Recording a calibration curve for individual pipe sections: pressure loss overflow rate
2. Parallel configurations of pipes (open/closed)
3. Series configurations of pipes
4. Combined series and parallel configuration
5. Investigation of a ring circuit (supply circuit)
6. Differential pressure measurement
7. Pressure losses in different fittings

### Specifications:

1. Panelboard, pipes mounted.
2. Gate Valve
3. Supply tank
4. Rotameter
5. Control Valve
6. Manometer
7. Water inlet
8. Sump tank
9. Pressure meter
10. Pump Starter
11. Pipes with pressure values
12. Unit for the analysis of different pipe systems
13. l x w x h 1800x800x1600mm, 160kg
14. Volumetric flow rate measurement in the range from 0...10L and 10...40L with level indication
15. Parallel and series configuration of pipes
16. Construction of a ring circuit
17. Pressure losses at different fittings such as bends and elbows
18. Pressure measurement with water and mercury manometers

### **Technical Specifications:**

#### **Pump**

Rating: 550W

Max. head: 11m, max. flow rate: 12m<sup>3</sup>/h

Max. pipe-work capacity: 4.8m<sup>3</sup>/h

Supply tank: 170L

Measuring tank: Capacity: 10L / 40L (smaller / larger measuring range)

#### **Pipe sections**

Length 700mm each

Nominal diameters

25x1.9mm (1x)

20x1.5mm (2x)

16x1.2mm (2x)

#### **Measuring ranges of manometers**

- Mercury U tube: 1360/0/1360mbar

- 2-tube water manometer: 100mbar

#### **Services required:**

230V, 50Hz, 1 phase

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