



### Features

- 4 different cams, 2 different tracers
- Influence of spring rigidity and moving mass
- Plotting of lift curve
- Excellent observation of movement process
- Optional Computer interface & Data Acquisition Software

Tesca Cam Analysis Apparatus allows the dynamic investigation of cam mechanisms, as used in motors for actuation of the valves. The cam mechanism consists of 4 interchangeable cam plates and 2 different tracers. A mass and a spring are used to simulate the valve. In order to demonstrate the so-called "valve wobble", the spring rate, mass, and speed are adjustable within broad limits. A plotter allows the actual lift curves to be recorded. The open design allows the observation of every detail of the movement

Note: Specifications are subject to change.

### Tesca Technologies Pvt. Ltd.

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process. A stroboscope (not supplied) can be used to provide a particularly impressive view of the movement process and lift.

The experimental unit is intended for demonstration purposes in technical education. It is not suitable for use as a test stand for fatigue testing.

With optional Data Acquisition software & interface, it can enable plotting of curves and with LABVIEW clear observation of the experiments readings and calculations.

### Specifications:

- Experimental unit for investigation of cam mechanisms
- 4 cams: tangent, hollow cam, 2 circular cams with different head radius
- Tappet with 2 different tracers: flat or roller tappet
- 3 interchangeable restoring springs
- Electric motor with variable speed
- Moving mass with can be lifted with 5 additional weights; attached to tappet
- Mechanical drum plotter with plotting spring and coated paper

### Technical Specifications

- Three-phase asynchronous motor with frequency converter
  - Power: 250W
  - Speed: 60...670min-1
- Cams
  - 15mm lift
  - Opening angle: 140°
- Spring rigidity
  - Hard: 5.026N/m
  - Medium: 2.601N/m
  - Soft: 613N/m
- Masses
  - Additional weight: 200g

- Tappet: 530g
- Flat tappet: 93g
- Roller: 20g
- Plotter: synchronous belt drive
- Optical speed sensor

### **Experiments**

- Comparison of different cam forms
- Lift curves for non-matching tracer
- Lift curve for skipping tracer
- Determination of limit speed and comparison with theory
- Influence of moving mass
- Influence of restoring spring rigidity

### **Scope of Delivery**

- 1 experimental unit
- 1 display and control unit
- 4 cams
- 2 tracer
- 3 restoring springs
- 3 blocks of plotter paper
- 1 combination wrench
- 1 hexagon screwdriver, short
- 1 set of instructional material

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