



SS INSTRUMENTS

MANUFACTURERS OF TEST AND MEASURING EQUIPMENTS

96, 4TH CROSS, 2ND MAIN, INDUSTRIAL LANE, NEAR SAI MANDIRA, KAMAKSHIPALYA, BANGALORE 560079

AUTOMOBILE CONTROL CABLE TESTING MACHINES

SS INSTRUMENTS Manufactures Various testing machines for testing Automobile control cables like throttle cables, clutch cables, brake cables, etc, To ensure safety, durability, and performance, these cables must undergo rigorous mechanical testing before installation in vehicles.

PURPOSE OF CONTROL CABLE TESTING

Control cable testing machines are specialized mechanical testing systems used to evaluate various physical and performance parameters of automobile control cables. These systems ensure that cables can withstand real service conditions without failure.

our engineered machines for Cable testing



- Custom-Built Special Purpose Machine
- Accuracy
- Reliability
- Productivity



TYPES OF CONTROL CABLE TESTING MACHINES

The following testing machines are manufactured as Special Purpose Machines (SPMs):

- Tensile testing machine & break load testing
- Inner elongation testing machine
- Fatigue life / endurance testing machine
- Cyclic endurance testing machine
- Pull / Push load testing machine
- Proof load testing machine
- Outer compression testing machine
- Buckling testing machine
- Torsion testing machine

TENSILE TESTING MACHINE

- These machines measure tensile strength and breaking force of control cables.
- Range: 2000 Kg – 4000 Kg
 - Pull the cable until deformation or breakage
 - Measure force, strain curves, and breaking points
 - Useful for quality control and compliance with standards
- Features:
 - Programmable load testing
 - Digital load cells with high accuracy
 - Displays force vs deformation curves
 - Can test long cable samples
 - HMI / PLC based
 - PC based
- Application: Testing clutch or brake cables for ultimate load capacity, outer end cap pull load

INNER ELONGATION TESTING MACHINE

- Used to measure elongation strength of control cables.
- Range: 1000 Kg
 - Pull cable up to a percentage of breaking load
 - Measure elastic, permanent & plastic elongation as per standards
- Features:
 - Programmable load testing
 - Digital load cells with high accuracy
 - Displays force vs time graph
 - Can test long cable samples
 - HMI / PLC based
 - PC based
- Application: Testing clutch or brake cables for elongation load capacity

FATIGUE LIFE / ENDURANCE TESTING MACHINE

These machines simulate real-life repeated motion cycles experienced by control cables.

Range: 100 Kg – 1000 Kg

- Repeated cycles of tension–release
- Early detection of fatigue failures such as wire breakage, lubrication loss, and sheath wear
- Often automated with PLC / HMI control

Features:

- Operating speed: 20 – 120 RPM
- Force range up to ~1000 Kg (10 kN)
- Adjustable tension loads & cycle counts
- Safety doors & emergency stops
- Real-time force feedback sensors
- Continuity detection (stop on break)

These machines are crucial for cables subjected to high-cycle service such as steering or transmission control cables.

PROOF LOAD TESTING MACHINE (EOL TESTING)

- Used as End-of-Line testing for crimping or die casting of all types of cables.
- Range: 10 Kg – 500 Kg
- Features:
 - Adjustable load testing
 - Marker output for OK / NOT OK cables
 - Highly accurate load cells & controls
 - Microcontroller unit / PLC HMI controlled
 - Servo-based machines for better accuracy & control
- Application: Die casting or crimp load testing as End-of-Line machine

OUTER COMPRESSION / BUCKLING TESTING MACHINE

- Used to test the strength of outer cables in straight and bent conditions.
- Range: 1000 Kg
- Features:
 - Adjustable load testing
 - Highly accurate load cells & controls
 - Microcontroller unit / PLC HMI controlled
- Application: Strength testing of outer cable

TORSION TESTING MACHINE

- These machines simulate bending, twisting, and dynamic loads rather than straight tensile loads.
- Range: 30 – 50 Nm (Custom Built)
 - Bend and twist cables repeatedly
 - Evaluate resistance to mechanical fatigue
 - Adjustable wrap angles & rotation speeds
- Application: Testing speedometer inner cables

GENERAL SPECIFICATIONS

While specifications vary based on test requirements, typical parameters include:

- Force range: 10 Kg to 20 kN
- Accuracy: $\pm 0.5\%$ or better for load sensors
- Cycle speed: Adjustable, up to 100–150 RPM
- Sample diameter: 1–3 mm (inner wires), 5–10 mm (outer cables)
- Control system: PLC + touchscreen with programmability
- Safety: Protective doors & emergency stops
- Frame: Aluminum profiles with transparent guards
- Continuity detection: Automatic stop on cable break

TRUSTED BY LEADING CABLE MANUFACTURERS

Serving control cable manufacturers across India



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