

# Automotive testing systems – to meet your highest demands



## Engines, Motors, and Power Sources

- Quality Control of Pig Iron, Aluminum Alloy, and Die Cast Parts
- Tensile Testing Evaluation of O-Rings
- Quality Control of Raw Materials, Parts, etc.
- Fatigue/Endurance Testing Machine of Various Materials and Compact Parts
- Thermal Fatigue Testing of Engine-Related Tubing Materials
- Internal Pressure Fatigue Testing of Pipes etc.
- Dynamic Properties Evaluation of Rubber Vibration Isolators
- Observations of High-Speed Phenomena Related to Automobiles



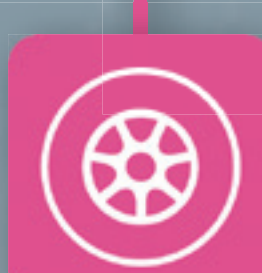
## Bodies and Interiors

- Evaluation of Strength of Steel Plating and Various Materials for Bodies
- Tensile Testing of Seat Belts and Seats
- Foam Rubber Evaluation of Car Seats
- Component Analysis/Defect Analysis of Polymer Materials
- Compositional Verification of Incoming Materials and Evaluation of Plating
- VOC Measurement & Odor Analysis Inside Automobiles/Physical
- Properties Evaluation and Structural Analysis of Polymer Materials for Interiors
- High-Speed Tensile Testing of Various Materials and Members and Materials
- Observations of High-Speed Phenomena Related to Automobiles
- Testing of Steel Plating for Bodies
- Evaluation of Thin Plate Formability (Draw Bead Testing)
- Operation Force Evaluation of Turning Indicator and Wiper Levers
- Official Certification of Internal Sensors in Crash Test Dummies
- Static Strength Evaluation of Automobile Bodies
- Vibration Testing of Various On-Board Component Parts
- Rollover Evaluation of Car Seats
- Frictionality Evaluation of Car Seats
- Durability Evaluation of Seat Belt Buckles
- Car Seat Lockoff Testing
- Evaluation of Seat Belt Anchorage
- Measurement of Automobile Interior VOCs



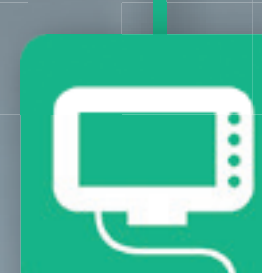
## Lithium-Ion Rechargeable Batteries and Fuel Cells

- Development and Evaluation of All Sorts of Automobile Materials
- Nanoparticle Measurement of Cathode Materials
- Internal Observation of Polymer Electrolyte Fuel Cells
- Surface Observation of Separators/Electrolytes
- Actual Battery Tests (Nail Penetration/Crush) and Fatigue
- Testing of Various Actual Parts and Materials for Automobiles
- Compression Evaluation of Lithium-Ion Rechargeable Batteries
- Structural Analysis of Active Materials and Various Materials
- Compression Characteristics Evaluation of Anode Active Material Particles
- Non-Contact Elongation/Width Measurement of Films and Foil Used as Separators
- Nanoparticle Measurement of Cathode Materials
- Particle Size Distribution Measurement of Cathode/Anode Active Materials
- Separation/Quantitation of Electrolytic Solution Components
- Tensile Strength Evaluation of Electrolyte Films
- High-Sensitivity Inorganic Gas Analysis
- Evaluation of Reformers



## Suspension and Other Power Transmission Systems

- Measurement of Spring Constant for Suspension
- Hardness Evaluation of Surface Hardened Layers, Paints, Plated Layers, etc.
- High-Precision Composition Analysis of Various Materials
- Composition Analysis of Various Materials for Automobiles
- Tire Compression Evaluation
- Evaluation of Coil Springs/Plate Springs
- Durability Testing Under Operating Temperature Environments
- Strength Measurement of Clutch Springs
- Ultra Micro Hardness Measurement of Various Materials
- Damping Force Characteristics Evaluation of Automobile Shock Absorbers
- Endurance Testing of Modules
- Fatigue Testing using Very High Cycle Fatigue Instruments
- Cyclic Endurance Testing of Automobile Parts
- Endurance Testing of Engine Mounts
- Endurance Evaluation of Automobile Parts by Frequency Sweep and Resonance Frequency Tracking Test
- Endurance Evaluation of Automobile Parts by Multi-Axis Real-Road Wave Testing



## Electronic Instrumentation Components

- Various Test Jigs
- Fatigue/Endurance Testing of Compact Electronic Components
- Environmental Resistance of Electronic Instrumentation Components
- Evaluation of Voids in Solder



## Environmental Conservation

- Control of VOCs (Volatile Organic Compounds) in Drainage
- Control of Fluorine, Nitrate Nitrogen, and Nitrite Nitrogen in Drainage
- Control of Hexavalent Chromium by Simple Measurements
- Management of Toxic Metals in Drainage, Including Lead (Pb), Total Mercury (Hg), and Cadmium (Cd)