

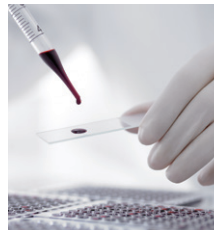


Cutting-edge analytical technologies are used for research and development and quality control applications in a wide variety of fields, including health care, green transformation, and materials science.



Early Detection of Disease and Drug Development

LCMS systems can measure the types and quantities of components contained in extremely tiny amounts of liquids.



LCMS (Liquid Chromatograph Mass Spectrometer)

Functional Components and Safety of Foods

UHPLC systems are used in a wide range of fields from foods to pharmaceutical development for applications ranging from research and development to quality control.



UHPLC (Ultra High Performance Liquid Chromatograph)

Cleaning Validation in the Pharmaceutical Manufacturing Process

TOC analyzers can measure the total quantity of organic carbon in water, gases, or solids.



TOC (Total Organic Carbon) Analyzer

Verification Testing of Drugs and Raw Materials According to National Pharmacy Laws

Widely used in pharmacopeial identification tests in Japan, the USA, and the EU. Also used in the optical materials and semiconductor industries, as well as in academia and government facilities.



UV-VIS Spectrophotometer



Impurity Analysis and Quality Control in the New Energy Field

Can analyze trace components in the specimen with high accuracy. Widely used in new energy fields such as hydrogen and biofuels, and in the environmental, pharmaceutical, food, chemicals, and electronics fields.



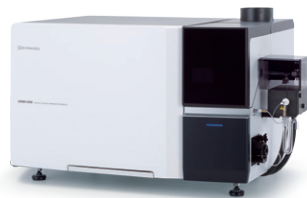
GCMS (Gas Chromatograph Mass Spectrometer)



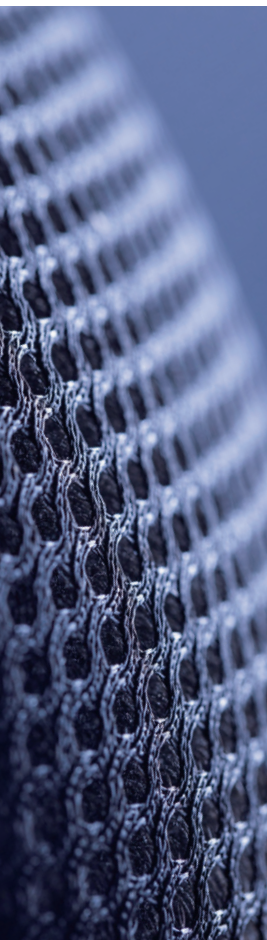
Gas Chromatograph

Trace Element Analysis of Environmental Specimens such as Soil, Water, and Air

Can analyze trace elements in a specimen and analyze multi elements simultaneously. Widely used in the environmental, food, and pharmaceutical fields.

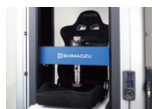


ICP Mass Spectrometer



Strength Evaluation of Various Materials for Next Generation Vehicles

These instruments are used to test the strength of a wide variety of objects, from materials such as rubber, plastics, and metals, to foods, pharmaceuticals, and electronic components, as well as next-generation vehicles like EV, PHV, FCV. They are widely used for both research and development and quality control applications.



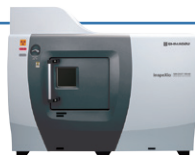
Tests on Real Automobile Seats



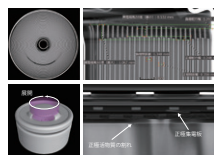
Precision Universal Testing Machine

Internal Observation of Industrial Products such as Lithium-Ion Batteries

X-rays are used to non-destructively analyze or inspect the interior of objects. This instrument can be used to inspect various industrial products, from electronic components and rechargeable batteries to CFRP/CFRTP and other functionally engineered materials.



Microfocus X-Ray CT Inspection System



Example of lithium battery internal observation

Controlling the Concentration of Nitrogen and Phosphorus in Effluent Water

These analyzers can measure nitrogen and phosphorus concentrations contained in effluents discharged into rivers, for example.



Online Total Nitrogen and Total Phosphorus Analyzer

Analyzing Microplastics in Environmental Waters

With infrared light, the instrument can identify microplastics, as well as trace contaminants in foods, pharmaceuticals, and electronic components.



Automatic Microplastic Pretreatment Apparatus



FTIR Spectrophotometer



Microplastics Collected from Coastline

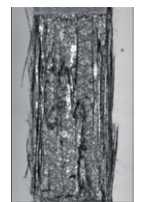
Observing Behavior of Advanced Materials with a High-Speed Camera

With an ultra-high recording speed of up to 10 million frames per second, our high-speed camera can observe phenomena not visible to the human eye. Can be widely used in materials testing, fluid dynamics, combustion, and sports science fields.



High-Speed Video Camera

Example of a Still Image of a High-Speed Tensile Test of Carbon Fiber Reinforced Plastic (CFRP); Frame Rate: ten million frames/second



Screening Test for Elements Regulated by RoHS

EDXRF can non-destructively measure the types and quantities of elements contained in solids, powders, and liquids.



EDXRF (Energy Dispersive X-Ray Fluorescence Spectrometer)



Example of Analysis of Electronic Components (Connectors)

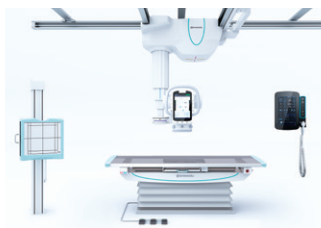


We provide easy-to-operate medical systems equipped with state-of-the-art image-processing technology that reduces patient stress.

These systems contribute to the early detection and treatment of infection, brain/heart disease, cancer, and other diseases in medical facilities worldwide.

The Standard X-Ray Diagnostic Systems

Radiography systems are used for X-ray imaging examinations of the chest, bones, and other parts of the body. In recent years, Shimadzu has expanded and improved the functionality available in combination with other application software to help ensure examinations are performed smoothly.



General Radiography System

Achieving a Healthy and Long Life

Not only gastrointestinal contrast radiography and endoscopic examinations, our latest multi-functional fluoroscopy systems can also be used for orthopedic examinations, such as long-view imaging or Tomosynthesis studies.



Tomosynthesis (multi-slice tomography) technology



Fluoroscopy System

Mobile Diagnostic Imaging Anywhere in the Hospital

The digital mobile X-ray system can be moved to the patient's bedside to take X-ray images and immediately display reference images on the built-in monitor. This system supports a wide variety of situations, such as infectious diseases, disaster response, operating rooms, and emergency care.



Mobile X-Ray System

AI-Based Support for Checking for Objects Left in Patients after Surgery



Supporting Surgical Procedures

This system supports surgery, such as plastic, vascular or breast surgery, by clearly visualizing lymph and blood flow under the tissue surface in real time using near-infrared light.



Near-Infrared Fluorescence Imaging System

Support for Cardiac, Brain, and Whole-Body Vascular Catheterization Procedures

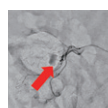
This system provides proprietary image processing technology that helps minimize the burden on patients during catheterization procedures performed to expand arteries constricted by arteriosclerosis or to block arterial aneurysms.



Angiography System



Image of Cardiac Blood Vessels
Improving Catheter Visibility and Reducing Radiation Dose Levels



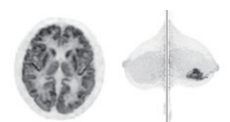
Abdominal Angiography Images
Visualizing Blood Vessels of Interest Using Minimal Radiation without being influenced by Patient or Equipment Movement

Support for Dementia Research and Breast Cancer Diagnosis

This TOF-PET system is optimized for both head and breast diagnosis. It can understand drug distribution, which is difficult with a whole-body PET system, and supports more accurate diagnosis. For breast diagnosis, our system need not pinch the breast, making it less painful for patients and helping to contribute to breast cancer treatment.



Dedicated Head and Breast TOF-PET System



Images of Head and Breast
Data provided by: Division of Positron Emission Tomography, Institute of Advanced Clinical Medicine, Kindai University

*Available in Japan only

Industrial Machinery and Equipment

Manufacturing Semiconductors and Displays

Turbomolecular pumps are vacuum pumps used to create the vacuum environment essential for manufacturing semiconductors and other high-tech products.



Turbomolecular Pump

Manufacturing Ceramics Used in the Automotive and Semiconductor Fields

This furnace is used to harden metals, ceramics, or other materials to increase their strength or ensure a given shape by heat-treating them in a vacuum or pressurized environment.



Vacuum and Pressurized Sintering Furnace

Hydraulic Motive Power Source

Hydraulic gear pumps are widely used as a hydraulic power source for industrial vehicles (forklifts), construction machinery, special-purpose vehicles, and agricultural equipment.



Hydraulic Gear Pump

Motive Power System for Industrial Vehicles

This system controls the direction, pressure, and flowrate of hydraulic oil output from hydraulic gear pumps. Shimadzu products are used in industrial vehicles (forklifts).



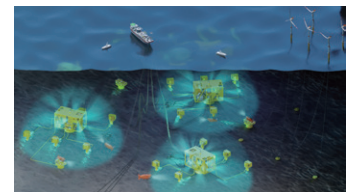
Hydraulic Control Valve

Safe and Efficient Marine Development

Shimadzu is developing an underwater optical wireless communication modem and other marine devices based on laser diode (LD) technology. Previous wireless technology only permitted transmitting small amounts of communication data acoustically through water, but this modem enables 4G-level high-speed communication using laser diodes. For marine applications, such as offshore wind power generation and seafloor resource development, which have attracted significant attention, Shimadzu contributes to improving safety and efficiency by enabling remote control of underwater operations and reducing CO₂ emissions.



Underwater Optical Wireless Communication Modem

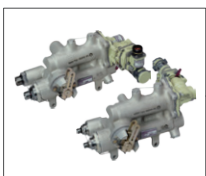


Illustration

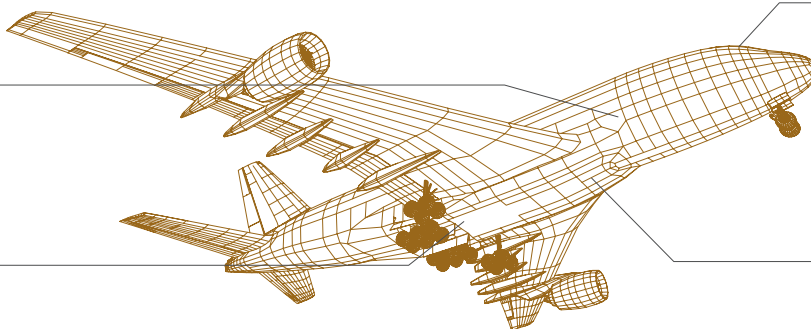
Aircraft Equipment

Ensuring Safe Aircraft Flight and a Comfortable Passenger Environment

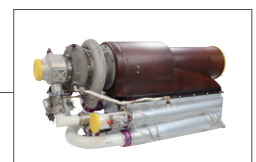
Our products include flight control systems that control aircraft lift and attitude, systems that display various flight information to pilots, and air management systems that integrate and control the cabin air system. Our high-quality mechanical and highly reliable electronic control and optical technologies contribute to safe and secure flights.



Power Drive Unit Gearboxes



Display System



Air Management System