








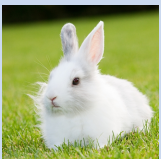



Field/Category	Technology	Product name/ Series name	Function/Role
 Pharmaceutical	X-ray diffraction 	SmartLab , MiniFlex , MiniFlex XpC	<p>In bulk drugs used to produce pharmaceuticals, environmental factors such as temperature and humidity can cause changes in crystalline polymorphism, even if the composition remains unchanged. Because characteristics such as solubility and rate of absorption differ for each crystalline polymorphism, crystalline polymorphisms have to be differentiated and quantified when developing and manufacturing pharmaceuticals. X-ray fluorescence spectrometry can be used to determine the type of crystalline structure to which a specimen belongs.</p>
	X-ray Fluorescence 	Primus series , Supermini200 , EDX series	<p>To ensure the safety of pharmaceuticals ingested by patients, elements that are impurities in the pharmaceuticals must be controlled. X-ray fluorescence spectrometry plays a role in controlling the elements in impurities.</p>
	CT 	Nano3DX , CT Lab series	<p>The speed with which drugs take effect (immediate effectivity/delayed effectivity) and the duration of effect (sustained release) are determined in the drug formulation and design phases. XCT is mainly used to inspect and manage internal structure, searching for cracks inside granules, tablets and capsules (“capping”), gaps, non-uniformity of coating, separation and phase changes. Eliminating these defects maximizes the effectiveness of drugs and prevents adverse effects.</p>
	Thermal analysis 	TG-DTA , DSC series	<p>Thermal analyzers measure changes in pharmaceuticals from application of heat, such as changes in weight and energy and emission of gases. They are useful in applications such as comparing quantities of a main ingredient in a series of pharmaceuticals and surveying the stable shapes of pharmaceuticals.</p>
 Pharmaceutical	Handheld Raman 	Progeny series , CQL ID series	<p>At pharmaceutical production sites, all materials received must be checked to ensure that there is no error in them. By using a handheld Raman spectrometer, manufacturers can measure the contents of materials without removing them from the polyethylene containers and glass bottles in which they are received, thereby avoiding concerns about contamination.</p>
 Animal Hospital	CT 	Cosmo Scan/ Stella Scan series	<p>The skeletons and internal organs of small animals can be observed while the animals are alive. This technology is also valuable in vital research on treatment and prevention of illness in humans, such as testing of safety and efficacy during drug development. In recent years, this technology has contributed significantly to COVID-19 research.</p>
 Biomedical sample	CT 	Nano3DX , CT Lab series , Cosmo Scan series	<p>Observation of the structure of bones, teeth and extracted organs in superfine detail plays a vital role in precious research to improve people’s health, enabling treatment and prevention of diseases in greater numbers of people.</p>