FIGSPEC®
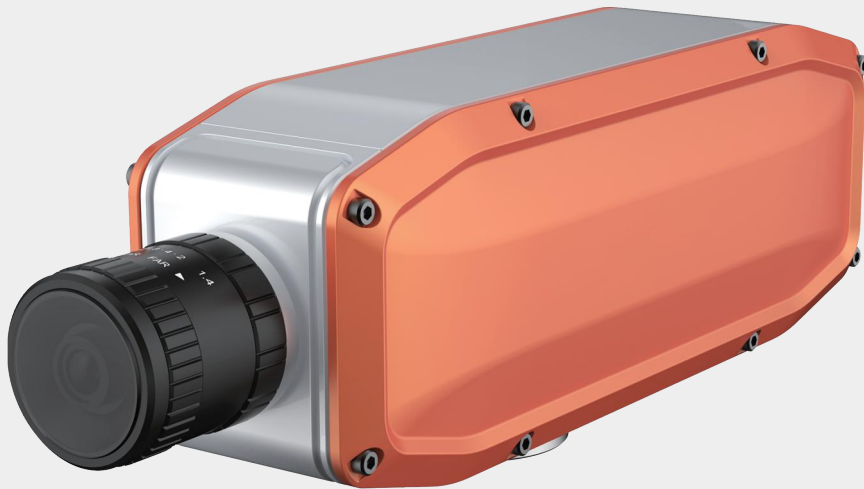
Hyperspectral Camera FS1X Series (Line Scan)
FS-10/12/13/15

Visible spectrum/NIR：

● Spectral range: 400-1000nm, wavelength resolution better than 2.5nm, up to 1200 spectral channels.

● Acquisition speed: up to 128FPS across the whole spectrum, up to 3300Hz after band selection (support multi-region band selection)

● Widely used in printing, textile and other industrial products surface color, texture detection. The repeatability of color measurement single pixel is up to dE* AB <0.1

SW-NIR：

● Spectral range: 900-1700nm, wavelength resolution better than 8nm, up to 254 spectral channels

● Acquisition speed: up to 200FPS across the whole spectrum

● Widely used in composition identification, material identification, machine vision, agricultural product quality and other fields
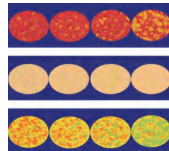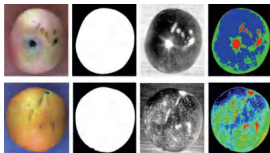
Measurement principle
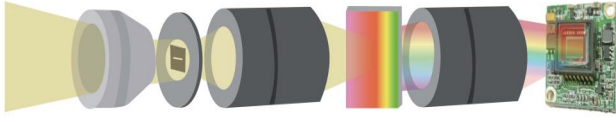
Typical application

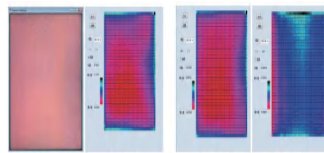
Printed matter inspection

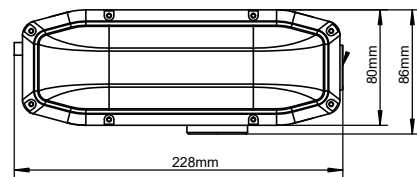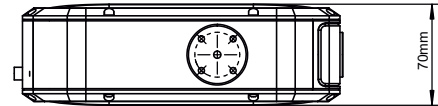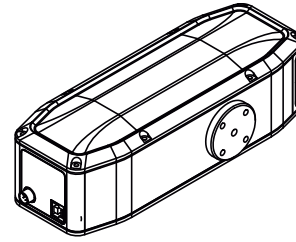Textile testing

Drug composition analysis

Fruit and vegetable sorting

Screen detection

Exterior dimensional drawing

70mm

80mm 86mm

228mm

Parameters

| Model	FS-10	FS-12	FS-13	FS-15
Spectroscopic method	Grating	Grating	Grating	Grating
Spectral Range	400-700nm	400-1000nm	400-1000nm	900-1700nm
Spectral Band	600	1200	1200	254
Spectral FWHM	2.5nm	2.5nm	2.5nm	8nm
Slit width	25um	25um	25um	25um
Transmission efficiency	> 50%	> 60%	> 60%	> 60%
Stray light	< 0.5%	< 0.5%	< 0.5%	< 0.5%
Spatial Sampling	1920px	1920px	1920px	320px
Pixel size	5.86um	5.86um	5.86um	30um
Imaging speed	Full band 41Hz 390Hz can be achieved after ROI	Full band 41Hz 390Hz can be achieved after ROI	Full band 128Hz 3300Hz can be achieved after ROI	200Hz
Sensor	CMOS	CMOS	CMOS	InGaAs
SNR(Peak)	500/1	600/1	600/1	600/1
Camera output	USB3.0	USB3.0	USB3.0	Gigabit network
Camera interface	C-Mount	C-Mount	C-Mount	C-Mount
Accessories	USB3.0 transmission line	USB3.0 transmission line	USB3.0 transmission line	USB3.0 transmission line
ROI	Single area	Single area	Multiple area	Single area
Dimension	Length x width x height: 22.8 cmx7cmx8. 6 cm	Length x width x height: 22.8 cmx7cmx8. 6 cm	Length x width x height: 22.8 cmx7cmx8. 6 cm	Length x width x height: 31.3cmx8.7cmx9.6cm
Weight	1250g	1250g	1250g	2630g
Power dissipation	5W	5W	5W	5W

FS-13 Test Bench ore detection

Using the FS-13 model and an indoor test bench, we tested coke, hematite, and iron ore. We analyzed the ores' wavelength characteristics within the 400-1000nm spectral range. Each ore type showed distinct waveform shapes and unique spectral characteristics. These findings will aid in ore classification and compositional analysis in future applications.
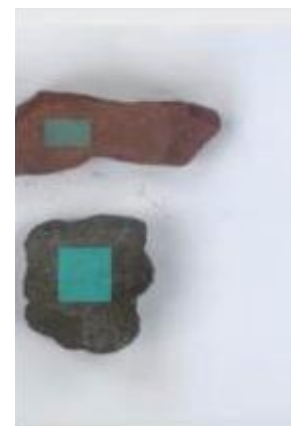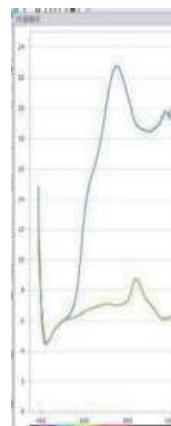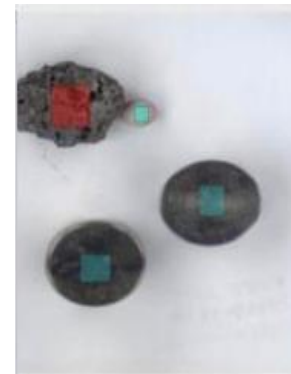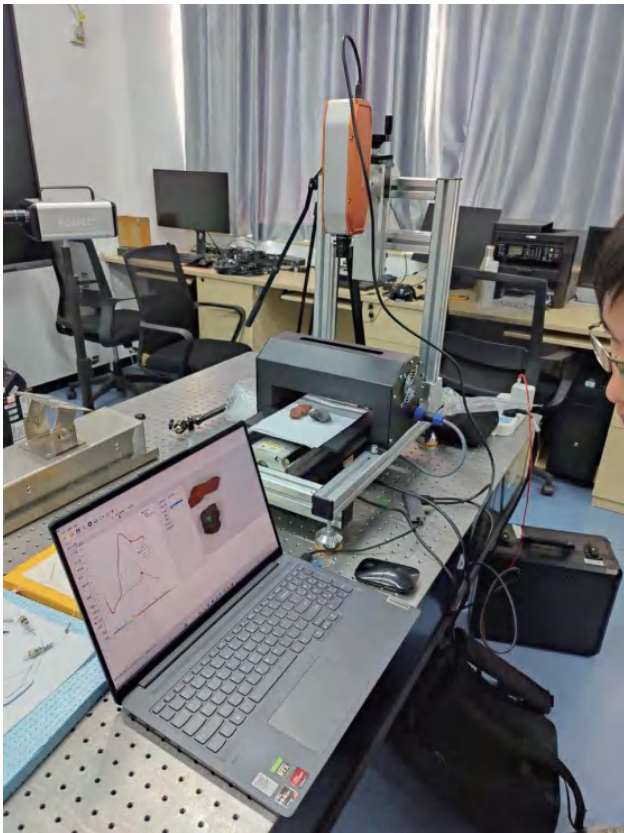
FS-13 Liquid Identification

Using the FS-13, we identified liquid components. The test results showed that the spectral lines of water and alcohol between 400-700nm were largely similar, but in the near-infrared band, alcohol exhibited a distinct peak at 930nm.identification
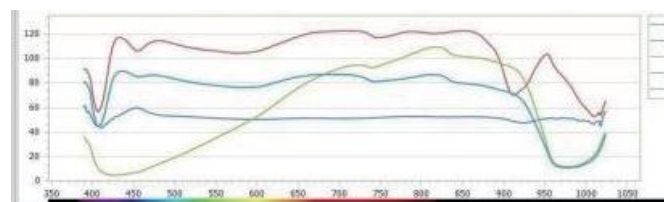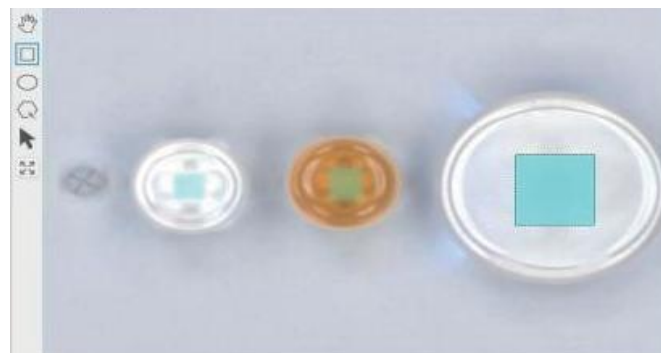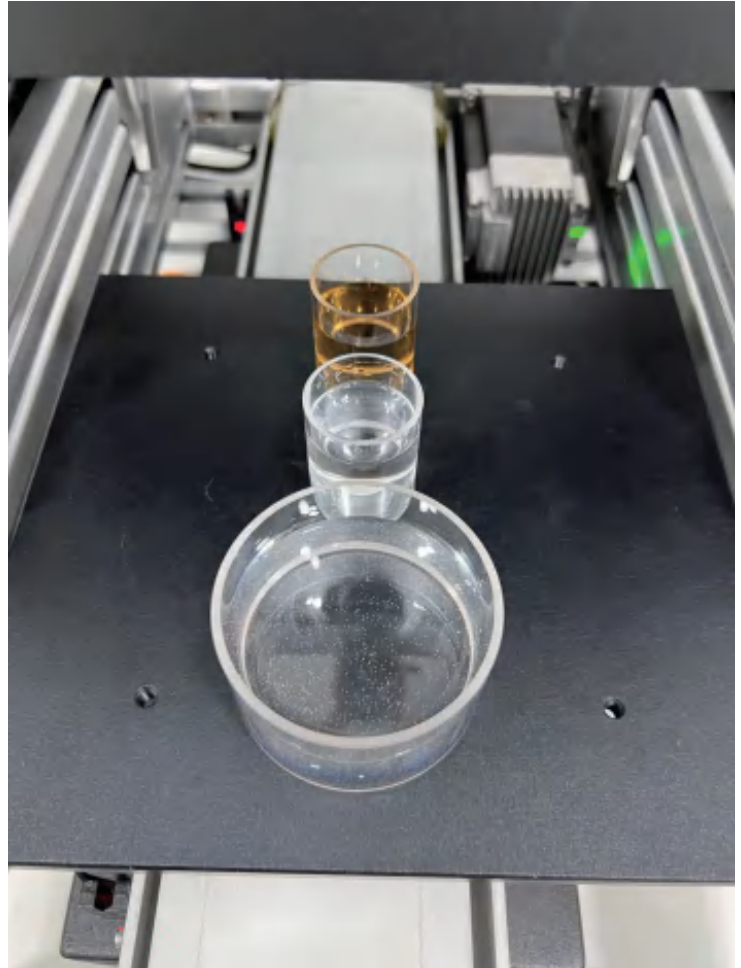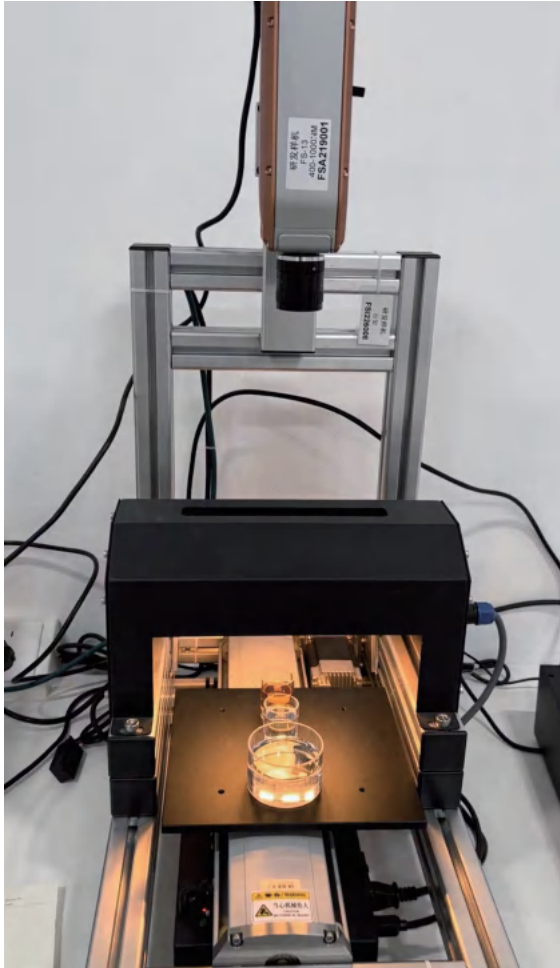
FS-15 Ore Classification

Using the FS-15, we identified three different ore types. The spectral curves varied for each ore, allowing us to perform cluster analysis and deep learning for rapid identification and classificationof different ores.
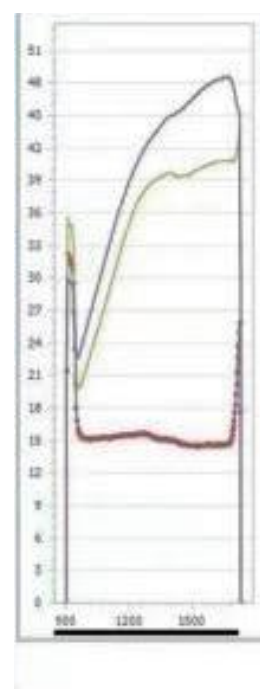
FS-15 Gastrodia elata powder test

Using the FS-15, we analyzed different concentrations of Gastrodia powder and Gastrodia solution concentrations.

The test results showed that different concentrations of Gastrodia powder exhibited distinct peak values around 1450-1600nm, allowing for clear differentiation between various concentration levels.
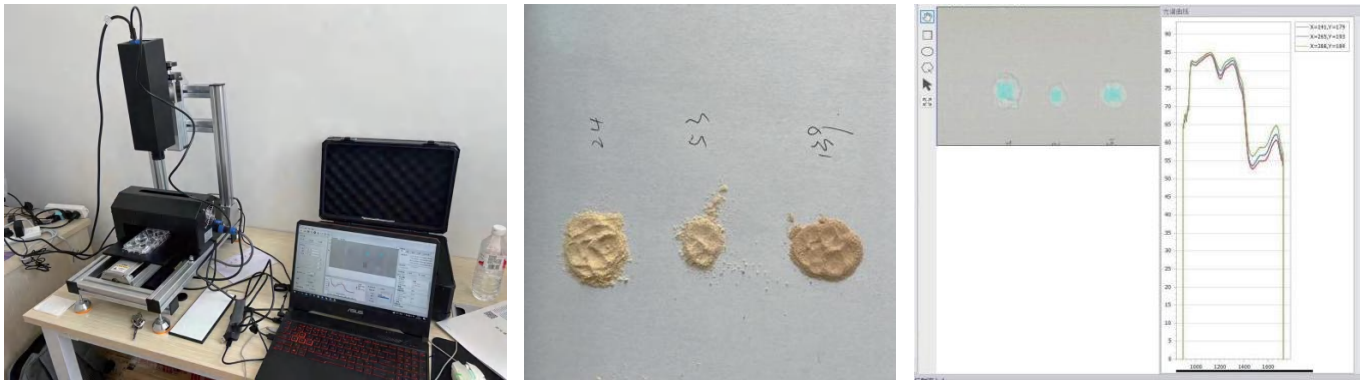
Accessories Introduction

Accessories Description	Quantity	Accessories Description	Quantity
Host	1	USB3.0 data cable	1
Standard lens	1	USB flash disk	1
Certificate of Conformity & Warranty Card	1	Packing List	1
Certificate of Conformity and Packing List	1	Black aluminum alloy box	1
Outer packaging carton	1	If shipped separately, with stand whiteboard	1
"This side is facing up, please do not turn it upside down; please do not drop this precision instrument."	1		