



SPECIM



A Konica Minolta Company

— PRODUCTS —



SPECTRAL CAMERAS

Specim is the leading industrial HSI camera manufacturer. We offer the widest camera portfolio for different wavelength ranges to serve industry, research, and governmental organizations. Whether working in a laboratory, industrial facility, or the field, we got you covered. The camera models vary in terms of spectral and spatial resolution, spectral response, imaging speed, and configuration options. Contact us for the optimal solution for your application.



| Model | Specim IQ | Specim FX10 (*) | Specim FX17 |
|-----------------------------------|--|---|--|
| Spectral Range | 400 – 1000 nm | 400 – 1000 nm 400 – 770 (FX10c) nm | 900 – 1700 nm |
| Spatial Pixels | 512 | 1024 | 640 |
| Spectral Bands | 204 | 224 / 140 (FX10c) / 100 (FX10+) | 224 |
| Spectral Resolution (FWHM) | 7 nm | 5.5 / 15 (FX10+) nm | 8 nm |
| Spectral Sampling/pixel | 2.99 nm | 2.7 / 6.3 (FX10+) nm | 3.5 nm |
| Max Frame Rate | N/A | 327 FPS full range 514 FPS full range (FX10c) 707 FPS full range (FX10+) | 670 FPS full range (FX17) 527 FPS full range (FX17e) |
| FOV | 31° | 12°, 24°, 38°, 47°, 51°, 83° | 12°, 38°, 53°, 66°, 75°, 90° |
| F-number | F/1.7 | F/1.7 | F/1.7 |
| SNR | 400:1 | 420:1 | 1000:1 |
| Interface | N/A | GigE Vision, CameraLink | GigE Vision, CameraLink |
| Dimensions | 207 x 91 x 74 mm | 150 x 85 x 71 mm | 150 x 85 x 75 mm |
| Weight | 1.3 kg | 1.3 kg | 1.56 kg |
| Integrated shutter | Yes | Yes | Yes |
| Typical applications | Vegetation research Food analysis Crime investigation Art analysis Health sector | Vegetation & agriculture Phenotyping Color & density in printing Display & light source inspection Food quality | Food & feed quality Waste sorting Recycling Moisture measurement Thread detection & security |

(*) High-speed FX10+ and color optimized FX10c also available



Specim GX17

SWIR

Specim FX50

Fenix

950 – 1700 nm

1000 – 2500 nm

2700 – 5300 nm

380 - 970 nm (VNIR)
970 - 2 500 nm (SWIR)

480

384

640

384

168

288

154

348 (VNIR) / 274 (SWIR)

8 nm

12 nm

35 nm

3.5 nm (VNIR) / 10 nm (SWIR)

4.7 nm

5.6 nm

8.44 nm

1.7 nm (VNIR) / 5.7 nm (SWIR)

800 FPS full range

450 FPS full range

377 fps FPS full range

100 FPS

12°, 38°, 53°, 66°, 75°, 90°

9°, 17°, 23°, 34°

4°, 45°, 60°

32.3°

F/1.7

F/2.0

F/2.0

F/2.4

700:1

1050:1

>1100:1

600:1 (VNIR) / 1050:1 (SWIR)

CameraLink

CameraLink

GigE Vision, Custom ethernet

CameraLink

202 mm x 75 mm x 102 mm

545 x 176 x 178 mm

280 x 202 x 169 mm

454 x 386 x 227 mm

1.9 kg

14 kg

7 kg

18 kg

No

Yes

Yes

Yes

Food sorting
Food inspection and grading
Waste sorting
Recycling

Chemical and material sorting
Pharmaceutical manufacture
Recycling
Mineral mapping
Food and agriculture
Moisture content distribution
Art research and archiving
Forensics

Black plastic sorting
Metal industry
Geology and mining

Geology
Law enforcement
Environmental applications

SPECIMONE

SPECTRAL IMAGING PLATFORM



Create new hyperspectral imaging applications faster, cheaper, and easier than ever before and reduce time-to-market with SpecimONE.

- Acquire spectral data with industry proven Specim HSI camera.
- Create classification models off-line with SpecimINSIGHT software.
- Apply the models into an in-line system with SpecimCUBE processing platform.
- No need for coding or in-depth knowledge of spectral imaging!

SPECTROGRAPHS

Specim's imaging spectrographs offer a distortion-free image with the highest optical performance on the market. We optimize each model for spectral resolution, detector size, spatial resolution, and imaging speeds required for the most demanding applications.



ImSpector V8

Standard series spectrograph designed for the VIS spectral range 380 - 800 nm.



ImSpector V10E

Enhanced series spectrograph designed for the VNIR spectral range 400 - 1000 nm.



ImSpector N17E

Enhanced series spectrograph designed for the NIR spectral range 900 - 1700 nm.

AIRBORNE SYSTEMS

The Specim AFX series is a state-of-the-art hyperspectral camera solution for remote sensing. The core of the AFX is the leading-edge, compact hyperspectral imaging camera integrated into a powerful microcomputer and high-end GNSS/IMU unit.



Specim AFX10

All-in-one VNIR hyperspectral imaging solution for spectral ranges from 400 to 1000 nm consisting of an HSI camera, a small and powerful computer, and a high-end GNSS/IMU unit in a compact enclosure that can be installed on multiple drone types.



Specim AFX17

All-in-one NIR hyperspectral imaging solution for spectral ranges from 900 to 1700 nm consisting of an HSI camera, a small and powerful computer, and a high-end GNSS/IMU unit in a compact enclosure that can be installed on multiple drone types.

GEOLOGY SYSTEMS

Geological samples such as drill cores can be rapidly mapped for almost all minerals using hyperspectral imaging. Specim's geological systems create an image where each pixel contains the full spectrum unique to each mineral of interest. Fast, automated algorithms identify minerals and convert the data into mineral maps.



SisuRock

A fully automated hyperspectral core imaging system for fast and easy scanning of drill cores and other geological samples, capable of imaging a single core in high-resolution mode or an entire core box in high-speed scan mode.



SisuSCS - Single Core Scanner

The SisuSCS provides the same functionalities as the full-scale SisuROCK but on a smaller scale. The small size makes it a more portable and ideal research tool for studying core-like samples.

SOFTWARE

Specim offers easy-to-use and efficient software solutions for data capture, model creation, and application development. We can also recommend commercial software solutions that are compatible with Specim cameras.



SpecimINSIGHT

SpecimINSIGHT is an off-line software tool that allows users to browse and explore data, create and validate classification models. Part of the SpecimONE spectral imaging platform.



Specim IQ Studio

Specim IQ Studio gives you the possibility to control the Specim IQ camera remotely and handle the Specim IQ data. You can process the hyperspectral data, and create applications for the Specim IQ.



Lumo family

Lumo product family is a selection of data acquisition software for Specim cameras, scanners and airborne systems.



CaliGeoPRO

CaliGeoPRO is a data processing tool to radiometrically correct and georeference hyperspectral data acquired with Specim AISA and AFX series sensors.

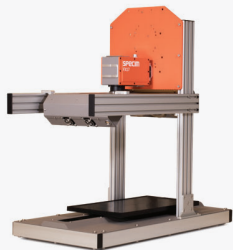
ACCESSORIES

Specim provides several accessories for its hyperspectral cameras and systems. From computing power, scanners, and lenses, to filters, we got you covered.



SpecimCUBE

An efficient processing platform that receives data from Specim FX and GX cameras and processes them in real-time based on a classification model created with SpecimINSIGHT, and streams the results to the target systems (e.g., sorting machine or machine vision system).



LabScanner 40 x 20

A compact 40 x 20 scanner frame for laboratory use.



LabScanner 100 x 50

A large scanner frame for laboratory use.



RS10 Rotary Stage

Scan an image of a stationary target or scenery in the lab and field with Specim hyperspectral cameras. Maximum payload 10 kg.



RS50 Rotary Stage

Scan an image of a stationary target or scenery in the lab and field with Specim hyperspectral cameras. Maximum payload 50 kg.

ABOUT SPECIM

Founded in 1995, Specim is the pioneer and leading global supplier of hyperspectral imaging solutions. We offer the broadest camera portfolio that covers wavelengths from visible to the thermal range, imaging spectrographs, software, and accessories to serve industry, research, and governmental organizations worldwide.

