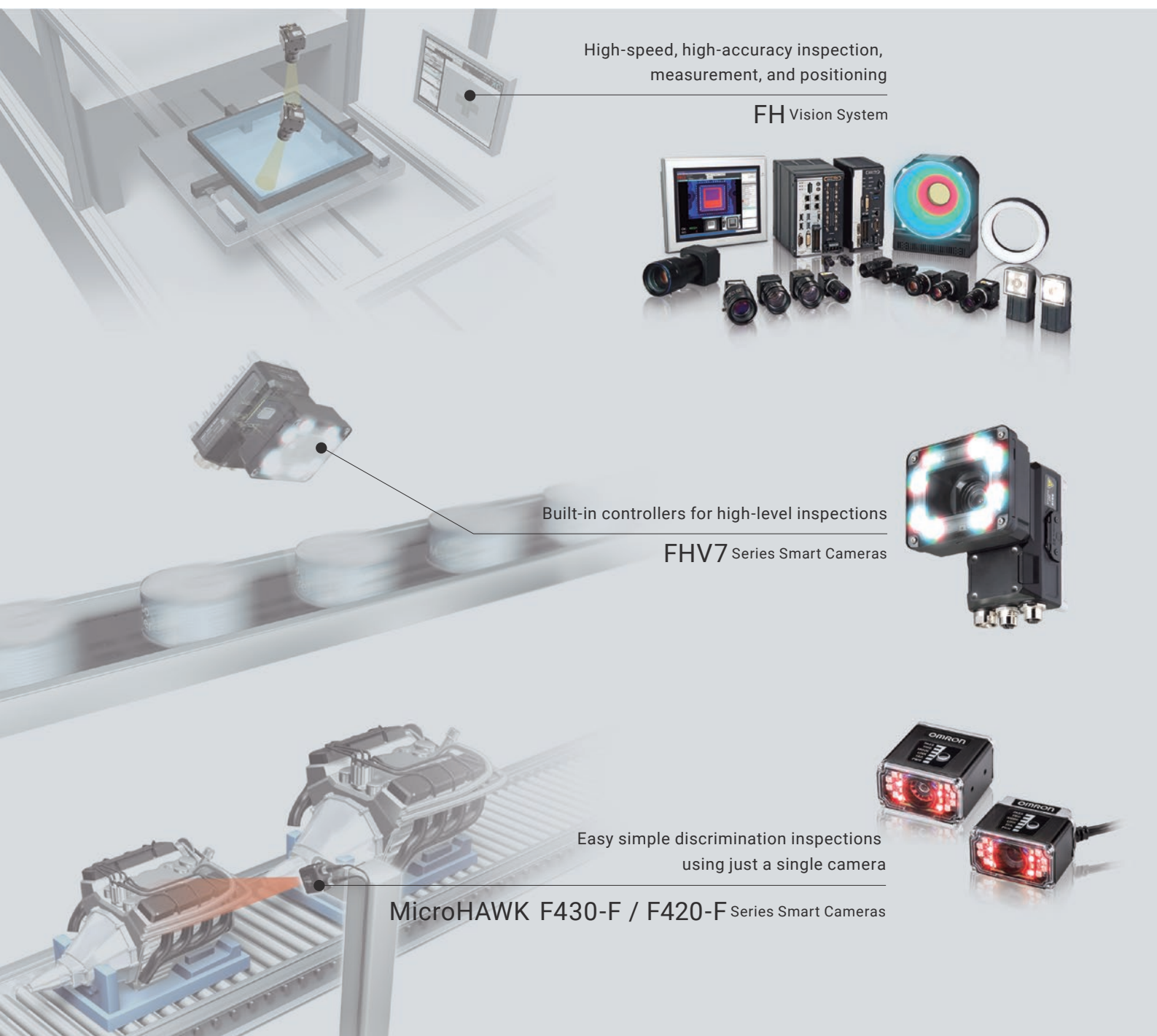


Selection Guide for Vision Sensors



High-speed, high-accuracy inspection,
measurement, and positioning

FH Vision System



Built-in controllers for high-level inspections

FHV7 Series Smart Cameras



Easy simple discrimination inspections
using just a single camera

MicroHAWK F430-F / F420-F Series Smart Cameras



Choose from our three series of vision sensors that address the most diverse inspections

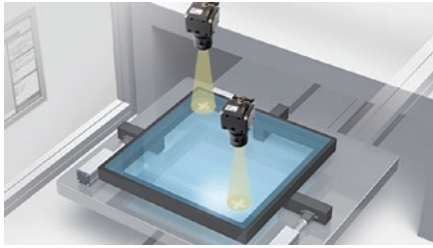
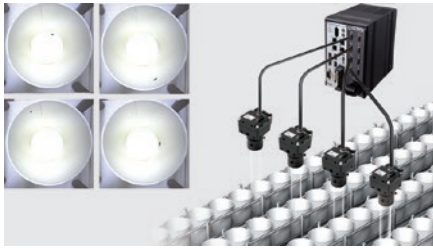
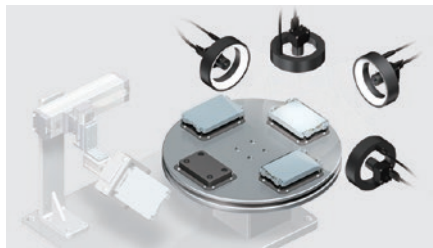
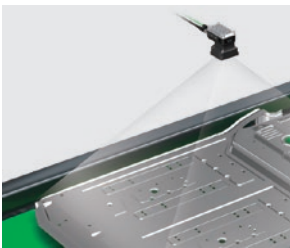
Vision sensor lineup

From high-speed, high-accuracy inspections/positioning to simple presence/absence inspections, OMRON's vision sensors can address a wide range of image inspections.

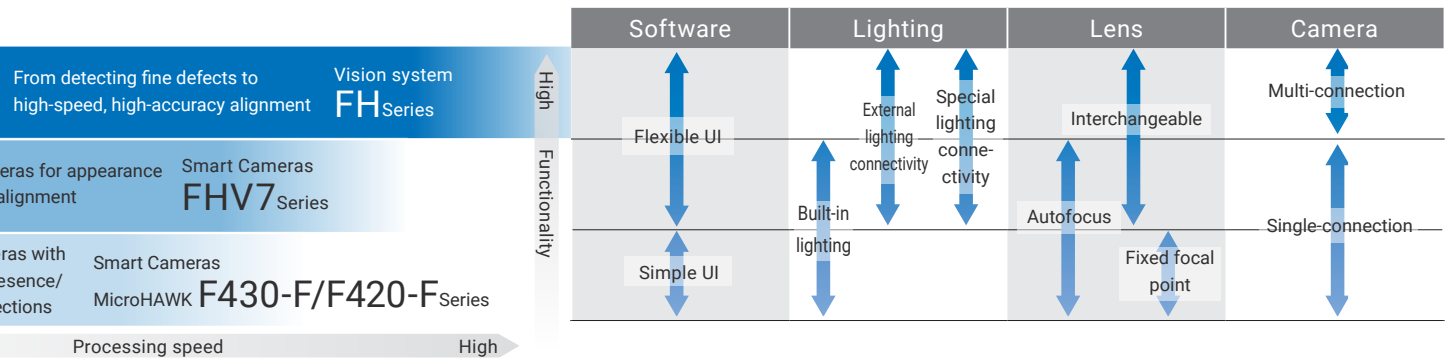
All-in-one smart cameras for simple inspections and pre-

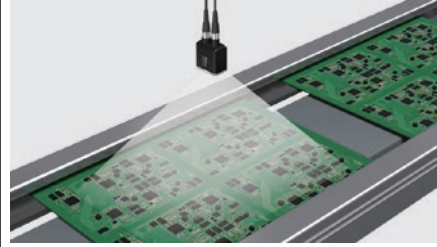
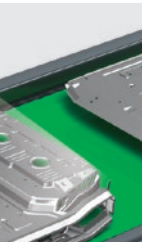
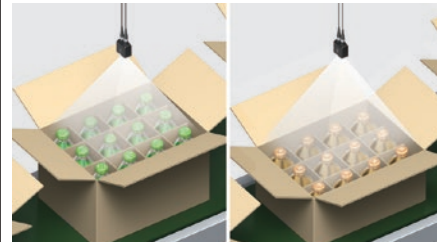
Just one of these ultra-small cameras with simple settings can cover basic presence/absence, direction, and other inspections.

Comparison chart of main specifications and application examples

Usage/Model		High-speed, high-precision inspection/alignment FH Vision System 		High-speed appearance inspection FHV7 Smart Cameras
Applications	Inspections	Presence/absence, direction, color, and other inspections; high-speed/high-accuracy inspections including position detection		
	Traceability	Code/character reading + Save (image/Measurement data)		
	Positioning	Pick&Place, High-precision positioning		Pick & Place
Hardware	Processing speed	★★★		★★
	No. of connectable cameras	Up to 8		1
	Camera Resolution	0.4/2/4/5/12 MP	5/20.4 MP	0.4/1.6/3.2/5 MP
	Shutter method	Global shutter	Rolling shutter	Global shutter
	Lens	Interchangeable (C mount, M42 mount)		Interchangeable (C mount)
	Lighting	External lighting connectivity / special lighting connectivity (MDMC*2, PS*3)		Built-in lighting (white, red, infrared, multi)
Software	User Interface	Flexible UI  Main screen  Measurement flow setting screen		
	Number of inspection items*1	★★★		
Application examples			High-speed, high-precision alignment FPD stage alignment Cameras, controllers, and algorithms designed for high speed and accuracy and a set of features dedicated to the quick startup of positioning applications help boost the productivity of positioning equipment.	
			High-speed multi-core controllers + Multiple cameras Contamination checks of beverage containers High-speed controllers with multi-core CPUs allow users to reduce the number of controllers from 4 to 1 without compromising takt time, enabling significant cost savings in procedures that involve many lines.	
			Lighting specially designed for appearance inspection 6-side circumference inspection of rechargeable battery cells PS lighting specially designed for appearance inspection enables the exclusive detection of dents and scratches on the surface, while dirt and fine hair lines are ignored.	

Main functions



ction, pre-alignment 		Simple discrimination MicroHAWK F430-F / F420-F Series Smart Cameras 	
n and dimension inspection		Simple discrimination (presence/absence, direction, color, etc.)	
		Code/character reading	
		—	
		★	
		1	
	6.3/12 MP	0.3/1.2 MP	5 MP
	Rolling shutter	Global shutter	Rolling shutter
/ autofocus (mechanical, liquid lens)		Fixed focal point / autofocus (liquid lens)	
ti-color) / external lighting control / special lighting connectivity (MDMC*2)		Built-in lighting (white, red, infrared, blue)	
Measurement condition setting screen 		Simple UI (AutoVISION) Inspection item setting screen 	Inspection run screen 
		★	
 High-resolution camera + Autofocus lens Depalletizing parts packed in stacking pallets A high-resolution camera with an autofocus lens allows parts packed in stacked pallets to be picked and placed with high accuracy.	 Simple discrimination + Code recognition Inspecting the caps and reading the codes on pharmaceutical bottles With its code/character recognition feature, a single camera can perform both inspection and code recognition, allowing for simpler configurations.		
 Multi-color lighting Inspection of a high mix of workpieces; character/code recognition Multi-color lighting enables high-contrast, stable inspection and character/code recognition by providing the optimal lighting color for each workpiece type.	 High-resolution 5-megapixel color camera Inspections for presence/absence of substrate mount components A single 5 megapixel color camera can capture high-resolution images which can be used for multi-point inspections.		
 Wide FOV, high-resolution Assembly inspection of flooring parts With its high resolution of 5, 6.3, or 12 megapixels, a single camera can inspect a wide field of view.	 Long-life liquid autofocus lens Quantity inspection of a mixed group of products For quantity inspections of products with varying heights, users can set focus for each product so that inspections can be conducted simply and smoothly with just a single device. The long-life liquid autofocus lens frees you from worrying about defect.		

*1. The higher the number of stars, the higher the performance.

*2. MDMC stands for "Multi-Direction Multi-Color." MDMC lighting allows for light of different directions, colors, and intensities to be mixed and matched to provide optimal lighting for any of the diverse defects found in different workpieces.

*3. PS stands for "photometric stereo."

Vision sensor lineup

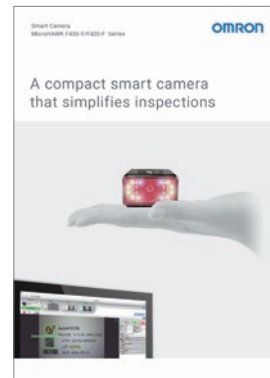
Please see our product catalogs for details.



Cat. No. Q197-E1



Cat. No. Q265-E1



Cat. No. Q272-E1