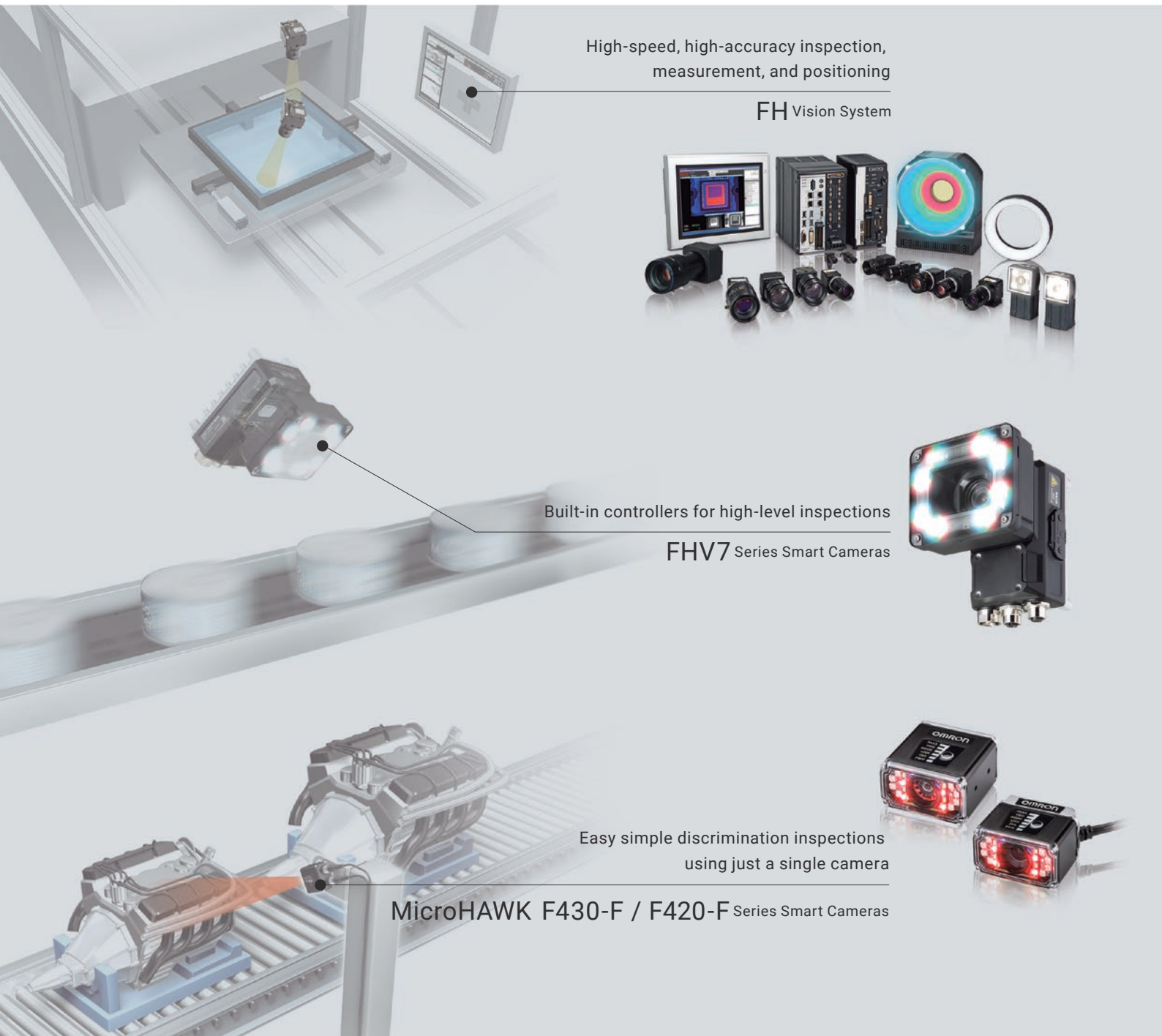


Selection Guide for Vision Sensors



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.

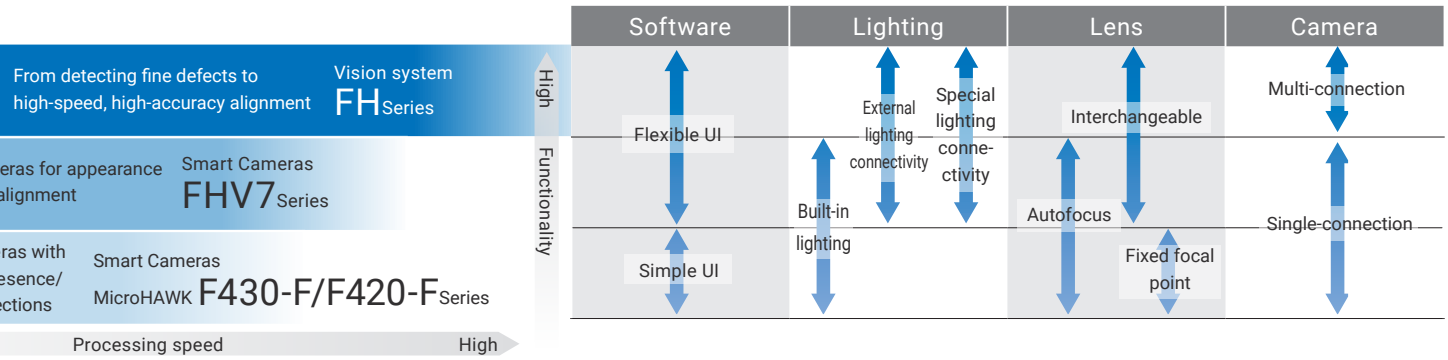
All-in-one smart cameras for simple inspections and pre-

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



<p>From detecting fine defects to high-speed, high-accuracy alignment</p> <p>Vision system FH Series</p>		<p>Smart Cameras FHV7 Series</p>		<p>Smart Cameras F430-F/F420-F Series</p>	
<p>Cameras for appearance alignment</p>		<p>Simple discrimination</p> <p>MicroHAWK F430-F / F420-F Series Smart Cameras</p>			
<p>Cameras with presence/directions</p>		<p>Simple discrimination (presence/absence, direction, color, etc.)</p>		<p>Code/character reading</p>	
<p>Processing speed</p>		<p>★</p>		<p>1</p>	
<p>High-resolution camera + Autofocus lens</p>		<p>6.3/12 MP</p>		<p>0.3/1.2 MP</p>	
<p>Depalletizing parts packed in stacking pallets</p> <p>A high-resolution camera with an autofocus lens allows parts packed in stacked pallets to be picked and placed with high accuracy.</p>		<p>Rolling shutter</p>		<p>Global shutter</p>	
<p>Multi-color lighting</p>		<p>Inspection item setting screen</p>		<p>Inspection run screen</p>	
<p>Inspection of a high mix of workpieces; character/code recognition</p> <p>Multi-color lighting enables high-contrast, stable inspection and character/code recognition by providing the optimal lighting color for each workpiece type.</p>		<p>★</p>		<p>Simple discrimination + Code recognition</p> <p>Inspecting the caps and reading the codes on pharmaceutical bottles</p> <p>With its code/character recognition feature, a single camera can perform both inspection and code recognition, allowing for simpler configurations.</p>	
<p>Wide FOV, high-resolution</p>		<p>High-resolution 5-megapixel color camera</p>		<p>Inspections for presence/absence of substrate mount components</p> <p>A single 5 megapixel color camera can capture high-resolution images which can be used for multi-point inspections.</p>	
<p>Assembly inspection of flooring parts</p> <p>With its high resolution of 5, 6.3, or 12 megapixels, a single camera can inspect a wide field of view.</p>		<p>Long-life liquid autofocus lens</p>		<p>Quantity inspection of a mixed group of products</p> <p>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.</p>	

*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

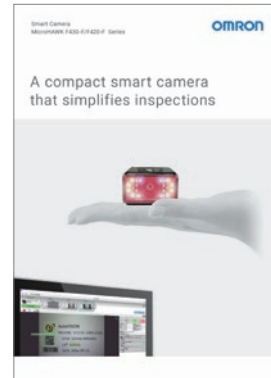
Please see our product catalogs for details.



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Cat. No. Q272-E1

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