LIQUID LENS TECHNOLOGY

AUGMENTING YOUR MACHINE VISION SYSTEM WITH LIQUID LENSES

Attaching a liquid lens to existing fixed focal lenses can be useful in applications that require a large depth of field. The liquid lens will allow you to electronically focus throughout the focus range of the lens. Having the ability to focus both up close and out to infinity in milliseconds can be very useful in applications such as package sorting, security, and barcode reading.

STEP 1: Select a Compatible Lens for Your Application
(Recommended Examples Below)

Focal Length (mm)	Compact Fixed Focal Length Lenses Applicable Stock Numbers	Camera Sensor Size											
		¼"		⅓"		½.5"		½"		⅓.8"		⅔"	
		10mm CA*	16mm CA*	10mm CA*	16mm CA*	10mm CA*	16mm CA*	10mm CA*	16mm CA*	10mm CA*	16mm CA*	10mm CA*	16mm CA*
8.5	#58-000												
12	#58-001, #86-607 - #86-613												
16	#59-870, #85-348 - #85-354, #85-336												
25	#85-355 - #85-361, #85-337												
35	#85-362 - #85-368, #85-338												
50	#86-614 - #86-620												

*Clear Aperture

Vignetting: Minimal/None | Moderate | Significant | Not Recommended

STEP 2: Select the Following Necessary Accessories for C-Mount Versions

1 Adapter Needed	For #58-000, #58-001, #59-870 use #33-428
	For 12mm, 16mm, 25mm Compact Instrumentation Lenses Use #33-185
	For 35mm Compact Instrumentation Lenses Use #33-186
	For 50mm Compact Instrumentation Lenses Use #33-187

STEP 3: Attach Liquid Lens Components to the Front of the Lens

Optotune Focus-Tunable Lens, Controller and Cable
(#88-939 or #33-494, #88-940, #88-941 or #33-468)

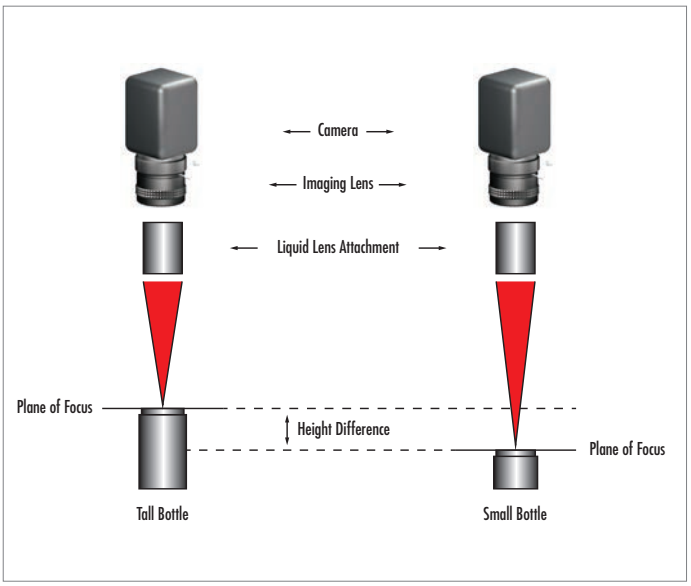
Edmund optics | worldwide
www.edmundoptics.com

Contact an Imaging Expert Today!

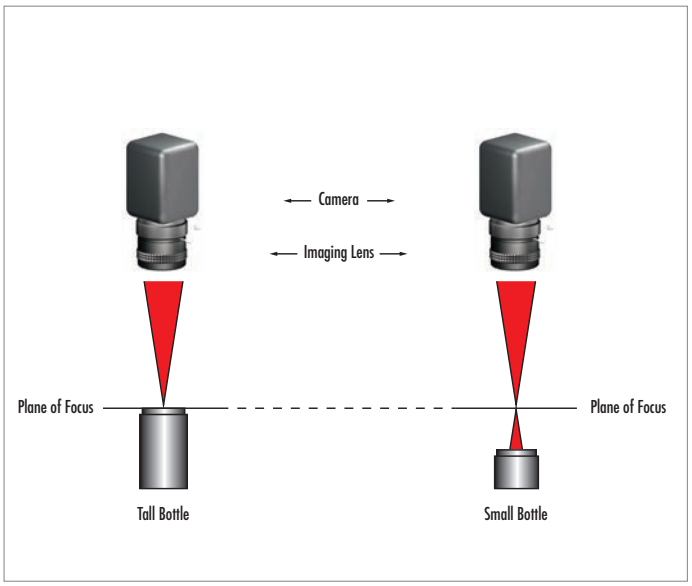
USA: +1-856-547-3488 **ASIA:** +65 6273 6644
EUROPE: +44 (0) 1904 788600 **JAPAN:** +81-(0)3-3944-6210

HOW DO LIQUID LENSES WORK?

WITH LIQUID LENS



WITHOUT LIQUID LENS



1a: Tall Bottle with a Liquid Lens

1b: Small Bottle with a Liquid Lens

2a: Tall Bottle without a Liquid Lens (Fixed Working Distance)

2b: Small Bottle without a Liquid Lens

MAXIMIZE IMAGING SYSTEM FLEXIBILITY

Liquid lenses can be used to maximize imaging system flexibility across a wide variety of applications requiring rapid focusing. By integrating a liquid lens, the imaging system can change the plane of focus in milliseconds in order to provide sharp images, regardless of the object's distance from the camera **(1a and 1b)**. Conversely, an imaging system without a liquid lens would be optimized for a specific working distance and is depth of field limited. Objects of varying height would result in an image of less than desired quality **(2a and 2b)** due to defocus. This makes integrating liquid lenses an ideal choice for applications that require focusing at multiple distances where the objects under inspection are different sizes or at different distances away from the lens such as barcode reading, package sorting, security, and rapid automation.

*Gerber® is a registered trademark of Nestlé S.A.