



# HCBI3M | DATASHEET

## Hypercentric Lens For Bottom Inspection for 1.1" sensors



### KEY ADVANTAGES

#### Perfect focusing of hollow objects with just one camera

For precise and high-resolution simultaneous imaging of the inner walls and bottom of cavities

#### Cavity inspection from the outside

No need to put an optical probe into the hole

#### Very high field depth and flexibility

Cavities featuring different shapes and dimensions can be easily imaged by the same lens

#### Wide viewing angle, manual focus adjustment and variable iris

Ideal for the inspection of bottles and hollow objects

HC series features hypercentric lenses for sensors up to 1.1" designed for the simultaneous inspection of the inner sides and bottom surfaces of hollow cylindrical samples, such as bottles, cans, vials, containers, pipes and bores.



### SPECIFICATIONS

#### Optical specifications

Image circle	(mm)	10.8
Min sensor size		1.1"
Working distance with minimum object size <sup>1</sup>	(mm)	242.8
Working distance with medium object size <sup>1</sup>	(mm)	474.1
Working distance with maximum object size <sup>1</sup>	(mm)	358.7
Viewing angle	(°)	30
$wf/N^2$		1.4 - 22

#### Mechanical specifications

Mount		C
Length <sup>3</sup>	(mm)	228.5
Outer diameter	(mm)	84.0
Mass	(g)	1105

<sup>1</sup> Working distance: distance between the front end of the mechanics and the object.

<sup>2</sup> Working f-number ( $wf/N$ ): the real f-number of a lens in operating conditions.

<sup>3</sup> Measured from the front end of the mechanics to the camera flange.

### FIELD OF VIEW

#### Field of view (diameter x height)

Minimum	(mm x mm)	∅ = 100.0
Medium	(mm x mm)	∅ = 160.0
Maximum	(mm x mm)	∅ = 220.0

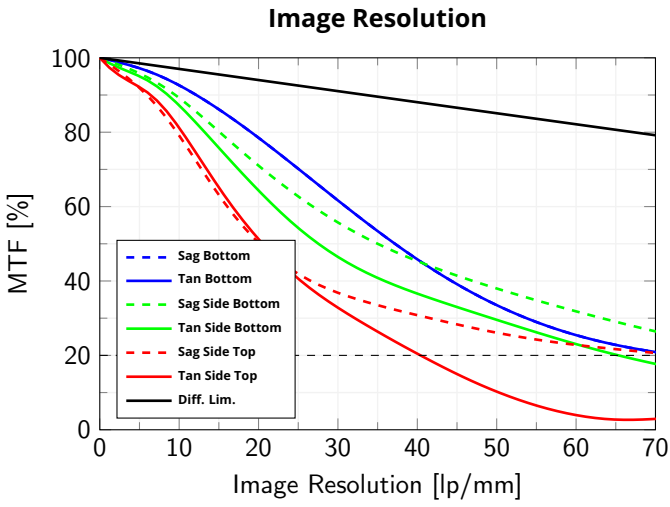
### COMPATIBLE PRODUCTS

Full list of compatible products available [here](#).

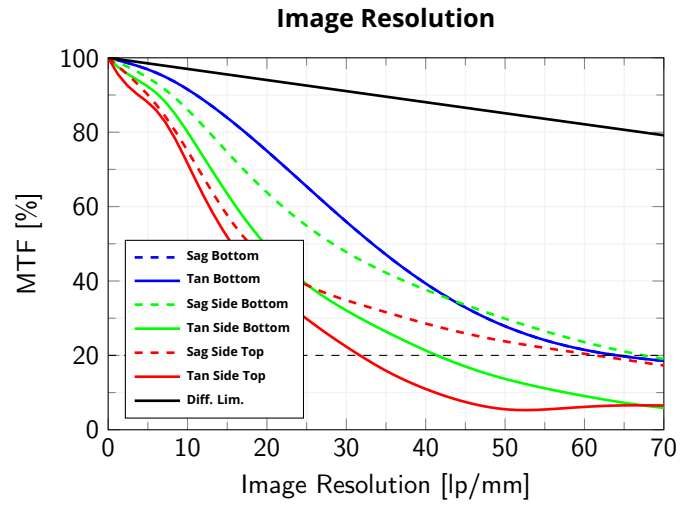


A wide selection of innovative machine vision components.

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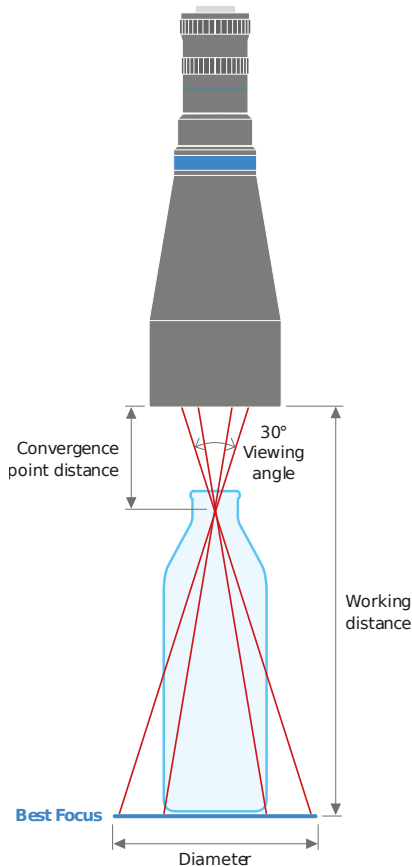


Modulation Transfer Function (MTF) vs. Image Resolution, wavelength range 486 nm - 656 nm of cylindrical object of diameter 110 mm and height of 330 mm



Modulation Transfer Function (MTF) vs. Image Resolution, wavelength range 486 nm - 656 nm of cylindrical object of diameter 50 mm and height of 150 mm

**HCBI IMAGING SETUP**



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