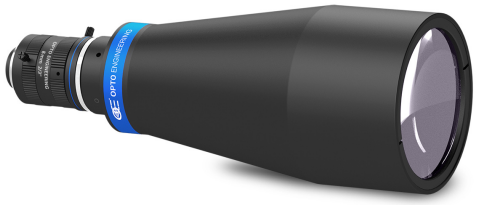
PC13020XC | DATASHEET

OPTO ENGINEERING

Ultra-compact pericentric lens for 1/3” sensors



KEY ADVANTAGES

Just one camera
No need for multiple cameras placed around and over the object.

Fast image analysis
No image matching software is needed as the picture is not segmented.

Single point of view
No perspective effects typical of multi-image systems.

Smooth on-line integration
Inspected parts pass unobstructed in the free space below the lens.

Smooth on-line integration available for the **inspection of small objects**, from 2 to 10 mm in diameter.

Industrial design and compact solutions for applications with reduced space.

REACH DOSSIER PATENTED

PC pericentric lenses are unique optics designed to perform complete inspection of objects up to 60 mm in diameter, quickly and reliably.

SPECIFICATIONS

Optical specifications

Image circle	(mm)	3.6
Min sensor size		1/3”
Working distance with minimum object size[3]	(mm)	46.6
Working distance with maximum object size[2,3]	(mm)	0
Viewing angle	(°)	25
f/N[4]		1.4 - close

Mechanical specifications

Mount		C
Length [5]	(mm)	215.8
Front Diameter	(mm)	84.0
Mass	(g)	1034

[1] For the complete information about the inspectable field of view, see the datasheet of the objective.
[2] The maximum inspectable field of view is given considering zero working distance. While keeping the diameter constant, a working distance greater than zero will decrease the height of the inspectable object accordingly.
[3] Working distance: distance between the front end of the mechanics and the object.
[4] The f-number could be changed using the variable iris.
[5] Measured from the front end of the mechanics to the camera flange.

FIELD OF VIEW

Field of view (diameter x height)

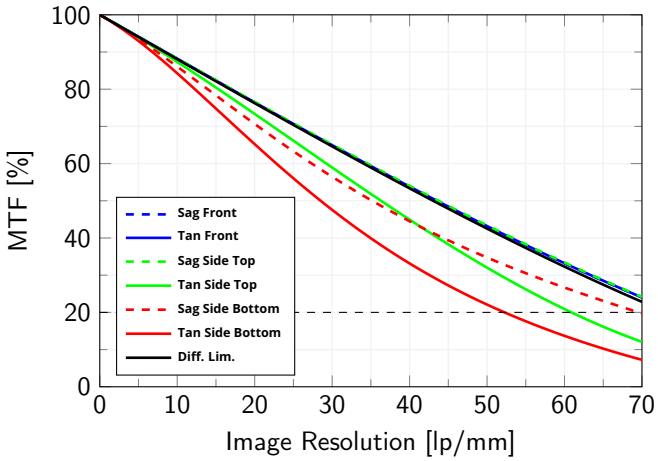
Minimum[1]	(mm x mm)	10.0 x 6.7
Maximum[1,2]	(mm x mm)	35.0 x 26.5

COMPATIBLE PRODUCTS

Full list of compatible products available *here*.

A wide selection of innovative machine vision components.

Image Resolution



Modulation Transfer Function (MTF) vs. Image Resolution, wavelength range 486 nm - 656 nm of cylindrical object of diameter 20 mm and height of 15 mm, at w*f*/*N*= 16

Field Of View VS Working Distance

Diameter [mm]	Height [mm]	Working distance [mm]
10	6.7	46.6
15	10.9	37.1
20	15	27.6
25	19.1	18.1
30	23.3	8.6
35	26.5	0

PC IMAGING SETUP

The image of the top of the object and its sides are inscribed into the short side of the camera detector.
The smaller the object diameter, the larger the object height which can be inspected, while short objects can be inspected over a larger diameter.