

# PCPW012 | DATASHEET

## Polyview lens for 1/2" sensors



### SPECIFICATIONS

#### Optical specifications

Image circle	(mm)	4.8
Min sensor size		1/2"
Working distance with min object size <sup>1</sup>	(mm)	40
Working distance with max object size <sup>1</sup>	(mm)	20
Viewing angle	(°)	45
<i>f</i> / <i>N</i>		1.4 - close

#### Mechanical specifications

Mount		C
Length <sup>3</sup>	(mm)	231.8
Front diameter	(mm)	117.0
Mass	(g)	907

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

<sup>2</sup> Measured from the front end of the mechanics to the camera flange.

### KEY ADVANTAGES

#### Just one camera

No need for multiple cameras placed around and over the object

#### Wide viewing angle

45° object sides view makes otherwise hidden features visible

#### Complete surface inspection

Both inner and outer object surfaces can be imaged in one shot

#### Very high resolution

Even the tiniest defects can be detected.

**PCPW optics** provide eight different views of the side and top surfaces of an object. The wide view angle (45°) enables the inspection of the side features of an object (for example the threads of a screw or a nut) otherwise impossible to acquire with a single camera.

### FIELD OF VIEW

Diameter x Height	(mm x mm)
Minimum	30.0 x 20.0
Maximum	50.0 x 5.0

### COMPATIBLE PRODUCTS

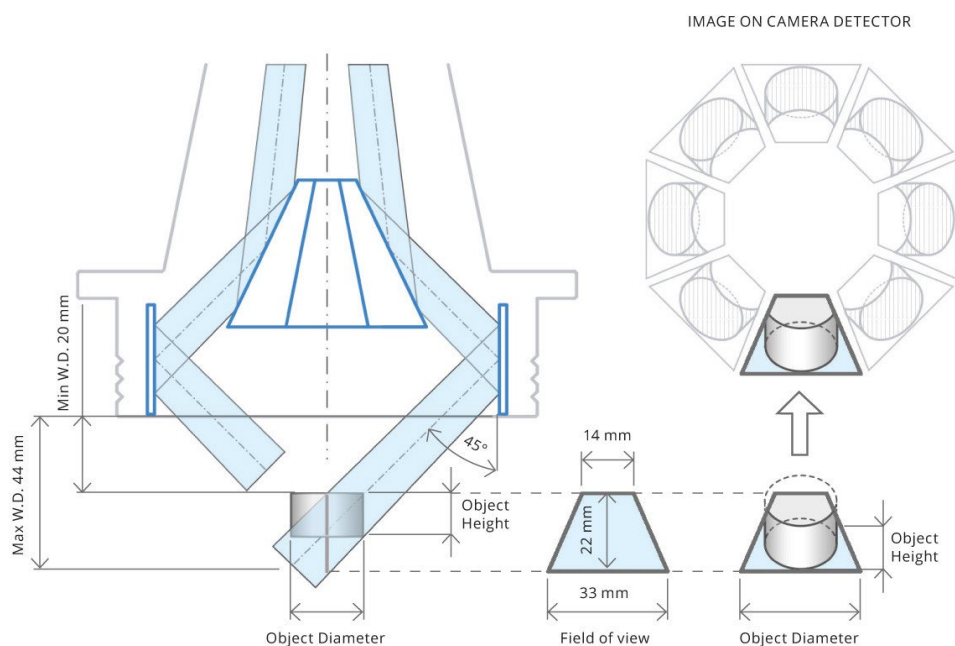
Full list of compatible products available [here](#).



A wide selection of innovative machine vision components.

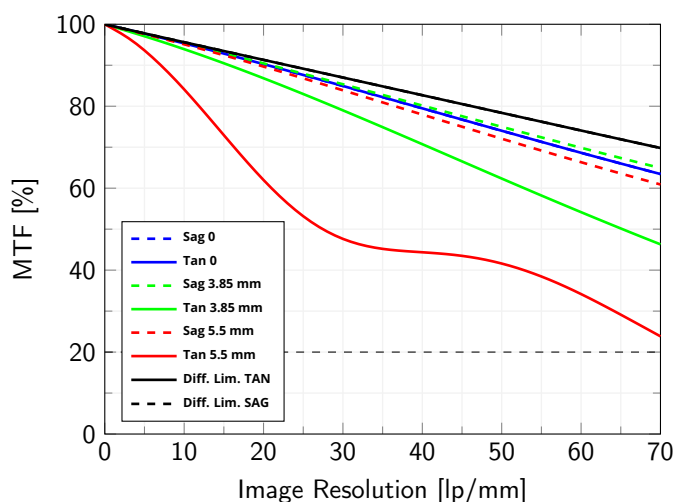
## WORKING PRINCIPLE AND FOV OF PCMP LENSES

Eight different trapezoidal fields of view are obtained: all the object features included in such a trapezoid will be imaged on the corresponding image portion.



## PERFORMANCE OF THE IMAGING LENS

### Image Resolution



Modulation Transfer Function (MTF) vs. Image Resolution, wavelength range 486 nm - 656 nm from the centre to to the corner of the image at  $wf/1.4$  - close

## VIGNETTING

When using LTRN050x45 ring LED illuminator in combination with PCPW0xx optics some vignetting occurs (up to 16% of the total FOV). Image on camera detector will appear as depicted in the schematics. Use the adapter provided with PCPW0xx to securely clamp LTRN050x45.

