



# PCPW012 | DATASHEET

## Polyview lens for 1/2" sensors



### 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.

### 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.

### 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](#).

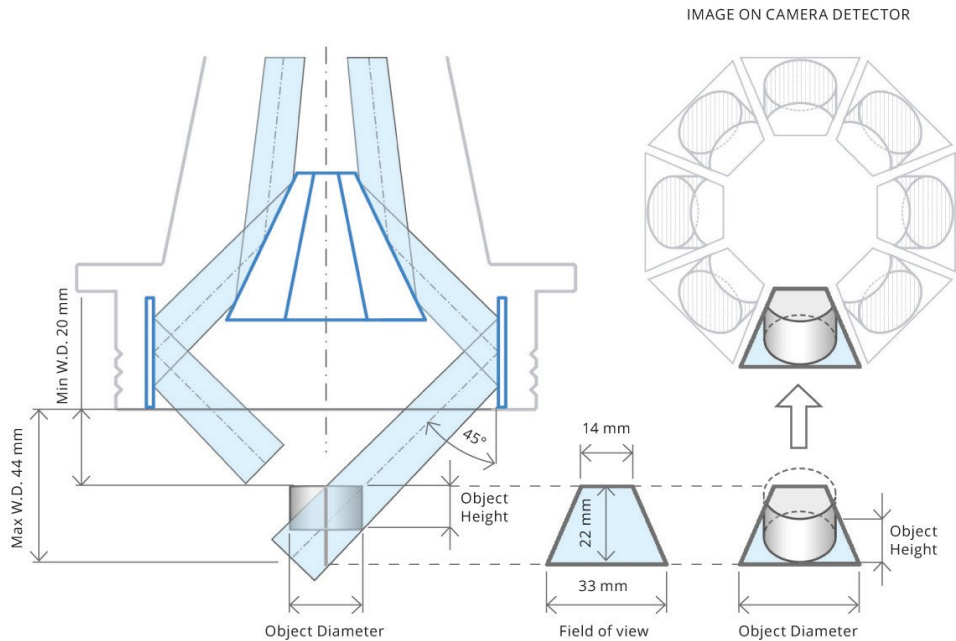


A wide selection of innovative machine vision components.

All product specifications and data are subject to change without notice to improve reliability, functionality, design or other. Photos and pictures are for illustration purposes only. Data are reported by design, actual lens performance may vary due to manufacturing tolerances.

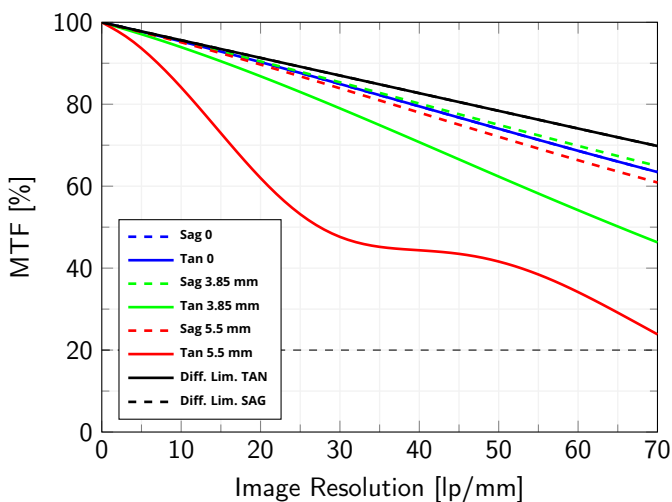
### WORKING PRINCIPLE AND FOV OF PCMP LENSES

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.

