

POLYVIEW OPTICS

PolyView Lenses provide 8 different views of the side and top surfaces of an object.

A wide perspective angle (45°) makes these components suitable for the inspection of the side features of an object (i.e. the threads of a screw or a nut) otherwise impossible to image with a single camera.

Both the external walls of an object and its top can be imaged at the same time.

Internal surfaces of holed objects can be completely inspected from the outside.

A combined view of the internal and external surfaces is possible and an image displaying both the inner walls and the bottom of a cavity can be obtained.

In addition to these unique features, PolyView Optics also grant a very high image resolution and very good image brightness.

Multiple side views with one shot

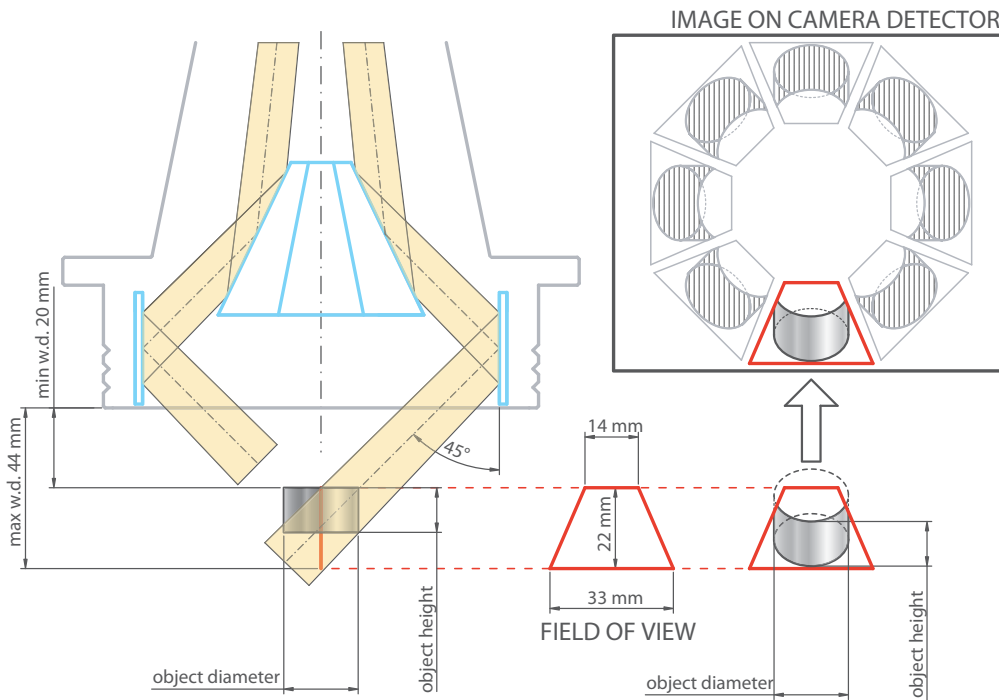


KEY ADVANTAGES

- 1 Just one camera:** no need for multiple cameras placed around and over the object
- 2 Wide viewing angle:** 45° object sides view makes visible features hidden when viewed from top
- 3 Complete surface inspection:** both inner and outer object surfaces can be imaged in one shot
- 4 Very High Resolution:** even the tiniest defects can be detected

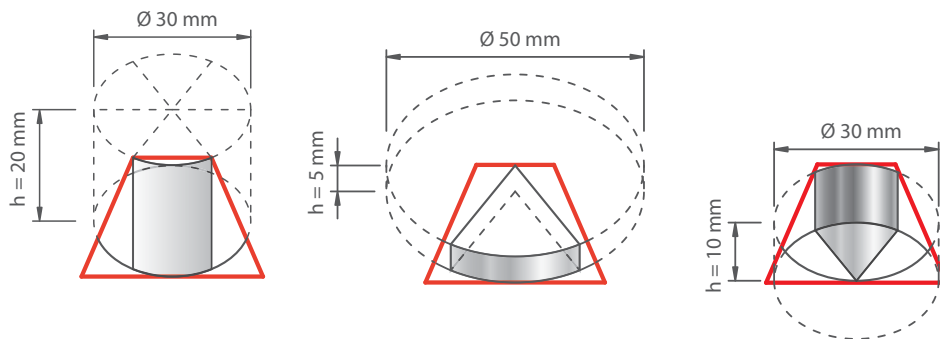
part number		PCPW013	PCPW012	PCPW023
detector size		1/3"	1/2"	2/3"
max. object diameter for SIDE inspection:				
with object height 20 mm	(mm)	30	30	30
with object height 5 mm	(mm)	50	50	50
max. object diameter for SIDE + TOP inspection:				
with object height 10 mm	(mm)	30	30	30
wavelength range	(nm)	450 .. 650	450 .. 650	450 .. 650
working distance	(mm)	20 .. 40	20 .. 40	20 .. 40
CTF @ 50 lp/mm	(%)	> 60	> 50	> 40
f-number		4-12	6-16	8-16
diameter	(mm)	140	140	140
length	(mm)	224	224	224
weight	(g)	990	990	990
mount		C	C	C

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The diagram below shows how PolyView Optics image a cylindrical object. The object is observed at a 45° viewing angle, from 8 different points of view. 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.

45° viewing angle allows for imaging both the sides of a cylindrical object and its top; if the object is a hollow cylinder (hole or cavity), the inner wall of the cavity will be imaged instead of the top, thus enabling both outer and inner sides inspection.



When the object height is maximum (20 mm) up to 30 mm diameter objects can be inspected

Up to 50 mm diameter objects can be inspected, provided their thickness doesn't exceed 5 mm.

Combined view of both the inner sides and the bottom of a cavity possible up to 30 mm diameter and 10 mm height.

MAXIMUM FIELD OF VIEW

In order to perform a complete 360° inspection, each of the 8 image portions should image at least 1/6 of the cylindrical surface; this condition ensures a good overlapping between two different lateral views, since part of the object features will be shared by two neighbouring image portions.

part number		LTRNPWHI
light colour		white, 6300 K
dimensions		
outer diameter	(mm)	54,0
inner diameter	(mm)	28,0
height	(mm)	18,3
weight	(g)	30
mount		threaded retaining ring
voltage	(V, DC)	24
power	watt	3
compatible PC lenses		PCPWOxx, PCHIOxx
other compatible lenses		TC230x, MC3-03X



LTRN050W45 is a small LED ring illuminator compatible with different OE products and suitable for a variety of inspections. This illuminator is also perfectly suitable for illuminating the inner sides of a cavity imaged by a *PolyView Lens*; the illuminator flange is threaded to fit PolyView inner mounting interface.