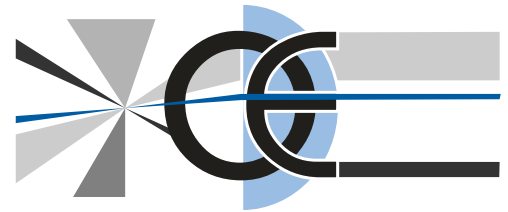


PERICENTRIC LENSES

360° SIGHT WITH JUST 1 CAMERA



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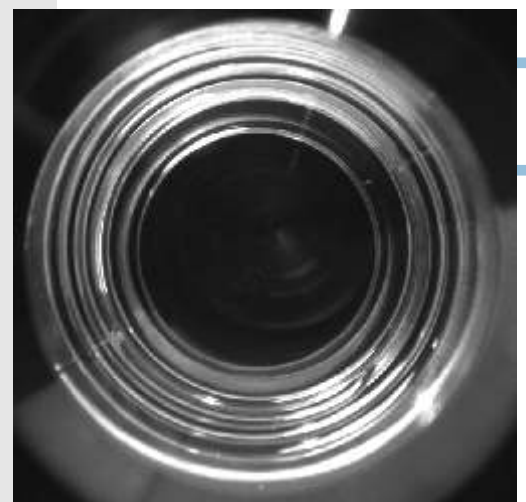
PERICENTRIC LENSES are an exclusive product by OPTO ENGINEERING developed to make possible a 3d peripheral vision of objects without any aid of mirrors.

By means of a special optical design, with these lenses just one camera is needed to capture the image of both the front surface of an object and its surrounding sides: when the lens looks at a cylindric object both the front surface and the cylinder surface are imaged at the same time.

The name "pericentric" is due to the special path of the rays inside the objective: the aperture pupil is seen from object space as to be moving around the peripheral zone of the front optical group.

MAIN ADVANTAGES:

- 1) Just 1 camera makes the job of 4 or more cameras placed around and over the object
- 2) No image matching, typical of "multi-point" imaging systems, is necessary
- 3) All the orthogonal sides have the same magnification because the object is seen from its top, not from one side
- 4) Space between the object and the lens is left in order to enable the passing of pieces in *on line* applications
- 5) Almost any kind of illumination sources can be integrated



Example: image of a glass bottle neck thread

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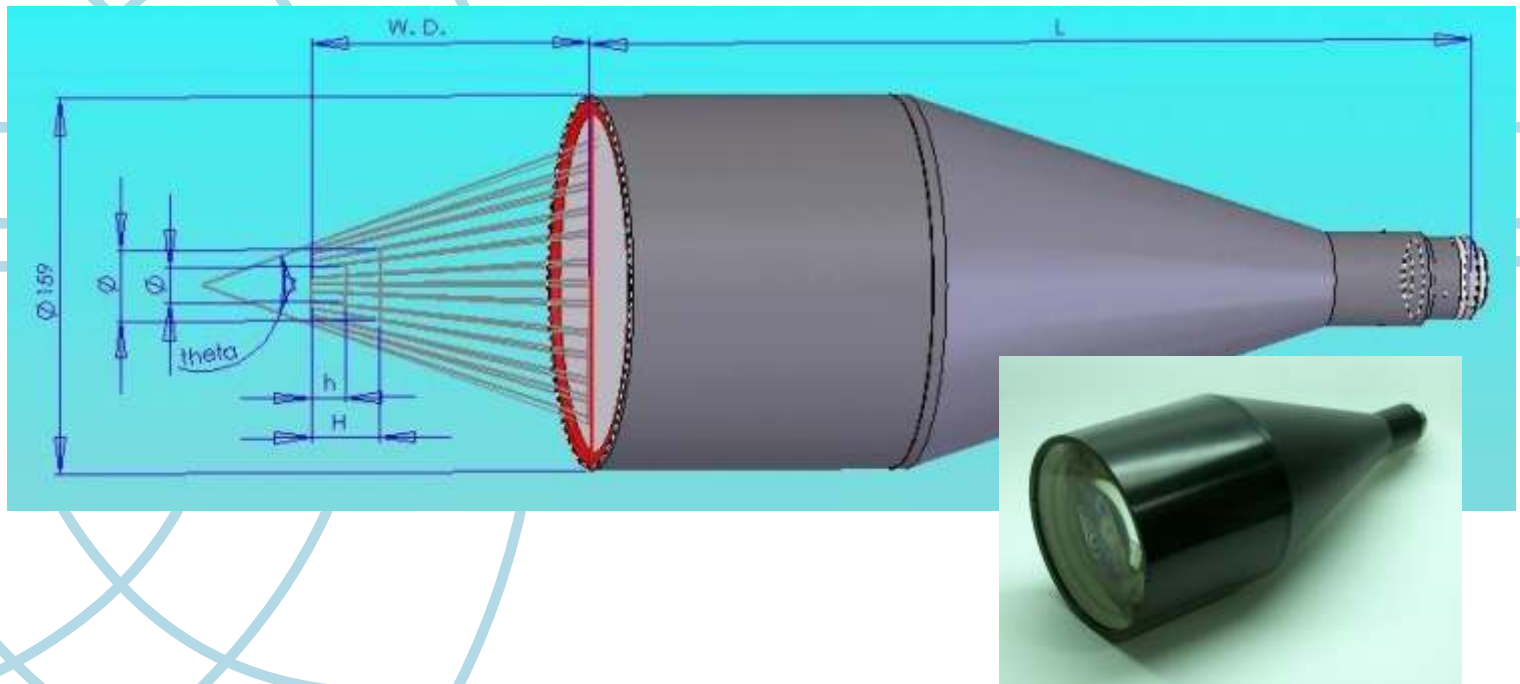
PC SERIES: SPECIFICATIONS

Pericentric lenses are specifically designed to work with 1/2" and 1/3" detectors: larger detectors would need an higher optical system magnification which would cause a lack of field depth, necessary to focus thick objects.

The image of the front surface of the object and its stretched side walls are inscribed into the short side of the detector.

For instance a PF 12 30 will create the image of the front surface and side walls of a cylinder of diameter 30 mm and height 20 mm on a disk with a diameter of about 4,8 mm (short side of a 1/2").

model	det.	OBJECT SPACE				OPTICAL SPECS.			DIMENSIONS	
		Maximum imaged volume		Minimum imaged volume		F/N	MTF(%) @50 lp/mm	W.D. (mm)	D (mm)	L (mm)
		Diameter (mm)	Height (mm)	Diameter (mm)	Height (mm)					
PC 12 30	1/2"	30	20	18	12	8	40%	125	160	380
PC 13 30	1/3"	30	30	15	15	8	40%	125	160	380
PC 12 15	1/2"	15	10	9	6	8	40%	59	82	218
PC 13 15	1/3"	15	15	9	9	8	40%	59	82	218



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