



HTPA Series Standard Optics

Heimann Sensor offers several kind of standard optics. We offer high performance dual germanium lens optics, as well as low cost uncoated, single silicon lenses. Naturally, it is possible to create new solutions, which fit to the individual needs of the customer.

Possible Combinations						
Lens	HTPA8x8 TO39	HTPA8x8 TO8	HTPA16x16	HTPA32x31	HTPA64x62	Remarks
L3	X	X	X	-	-	f/<1.0 Ge ARC
L3.6	X	X	X	-	-	f/<1.0 Si uncoated
L4.7	-	-	-	X	X	f/0.9 Dual Ge ARC
L5.5	X	-	-	-	-	f/1.0 Si uncoated
L7/1.2	X	-	-	-	-	f/1.2 Si ARC
L7.5	-	X	-	X	X	
L10/0.8	-	X	X	X	X	f/0.8 Dual Ge ARC
L10/1.0	-	X	X	X	X	f/1.0 Dual Ge ARC
L20/0.95	-	X	X	X	X	f/0.95 Dual Ge ARC

Resulting Field of View [°]				
Lens	HTPA8x8	HTPA16x16	HTPA32x31	HTPA64x62
L3	43.6	60.8	-	-
L3.6	36.9	52.1	-	-
L4.7	-	-	91.0	91.0
L5.5	24.6	-	-	-
L7	19.5	-	-	-
L7.5	18.2	-	50.3	50.3
L10	13.7	20.0	38.8	38.8
L20	6.9	10.1	20.0	20.0

Grey marked columns:

8x8(TO8): Non-Standard product. Only for special purposes.

16x16: actual under redesign.

The FOV can be easily calculated, according to the ray law (not true for L4.7):

$$FOV = 2 \cdot \arctan\left(\frac{N_{Col/Row} \cdot P}{2 \cdot f}\right)$$

f= focal length of the lens

P=Pitch of the sensitive elements

$N_{Col/Row}$ =Number of elements in Column or Row, depending if the FOV in horizontal or vertical direction should be calculated

Likewise, if the FOV is given, the needed focal length can be calculated by:

$$f = \frac{N_{Col/Row} \cdot P}{2 \cdot \tan\left(\frac{FOV}{2}\right)}$$

