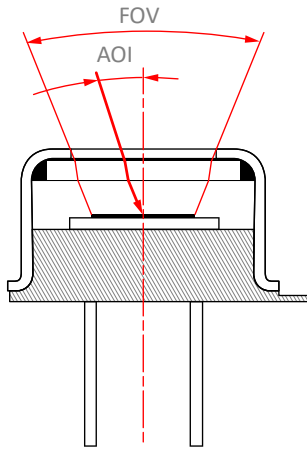


The Products

2.4.7 Field of View of the Detector



The field of view of the detector (FOV) is an important parameter for applications as well as for the flame sensors. However, this is defined differently from manufacturer to manufacturer. InfraTec uses as FOV the opening angle at which the pyro chip is just fully illuminated.

If, however, one defines the FOV so that even a partial illumination is admitted, one gets a numerically larger opening angle. However, the signal remains the same, of course. This means that a higher performance is inferred here, which does not really exist.

The FOV should be chosen optimally in order to maximise the portion of the desired radiation or to minimise the portion of the undesired radiation. The maximum AOI should be significantly smaller than the half FOV for the gas analysis considering the CWL shift of the IR filter.

The FOV can be increased by a filter substrate with a higher refractive index and by a decrease of the distance between the pyro chip and filter. The following table specifies the FOV for different detector types and windows as an example.

Optical channels	Type of detector	FOV for different filter substrates		
		CaF ₂ / BaF ₂ 0.4 mm thick	Silicon 0.5 mm thick	Silicon 1.0 mm thick
Single channel detector	LIE-316	65°	70°	80°
	LME-335	80°	90°	110°
Planar multi channel detector	LIM-222	-	20°	25°
	LMM-244	-	50°	70°
PYROMID® Multi channel detector	LRM-254*	-	70°	60°
	LRM-202*	-	105°	90°

* Central window Si 0.5 mm