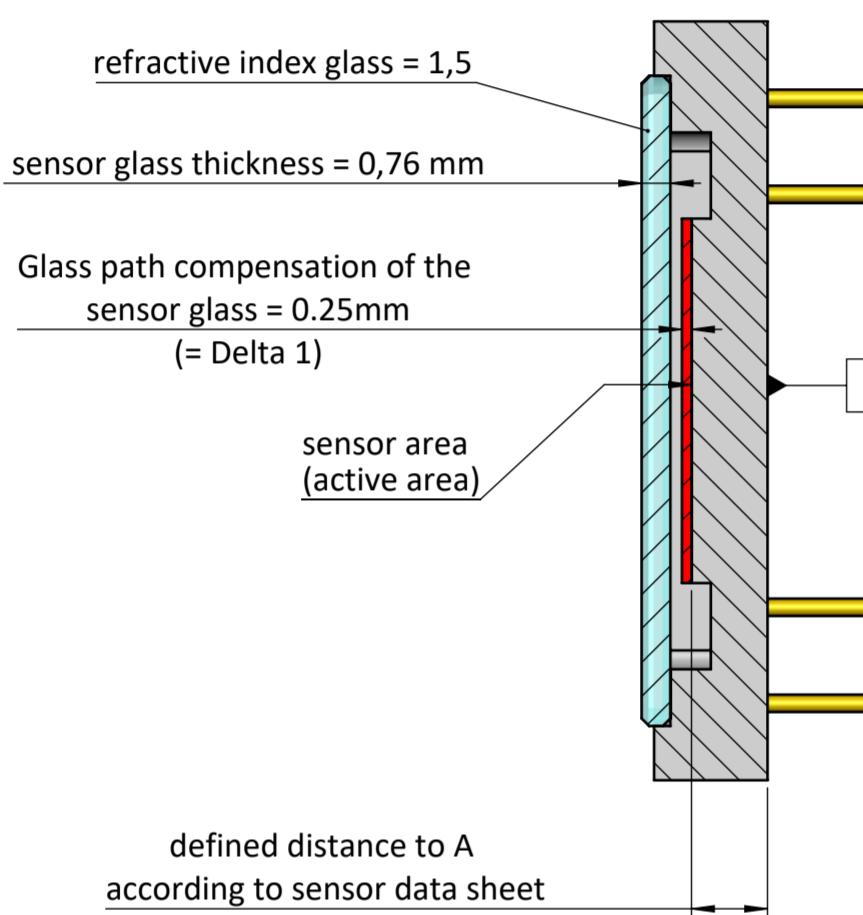


A B C D E F G H

How are our sensor models structured in CAD?

Our sensor models are generated exactly according to the data sheet, but the sensor surface is glass path compensated for further processing.

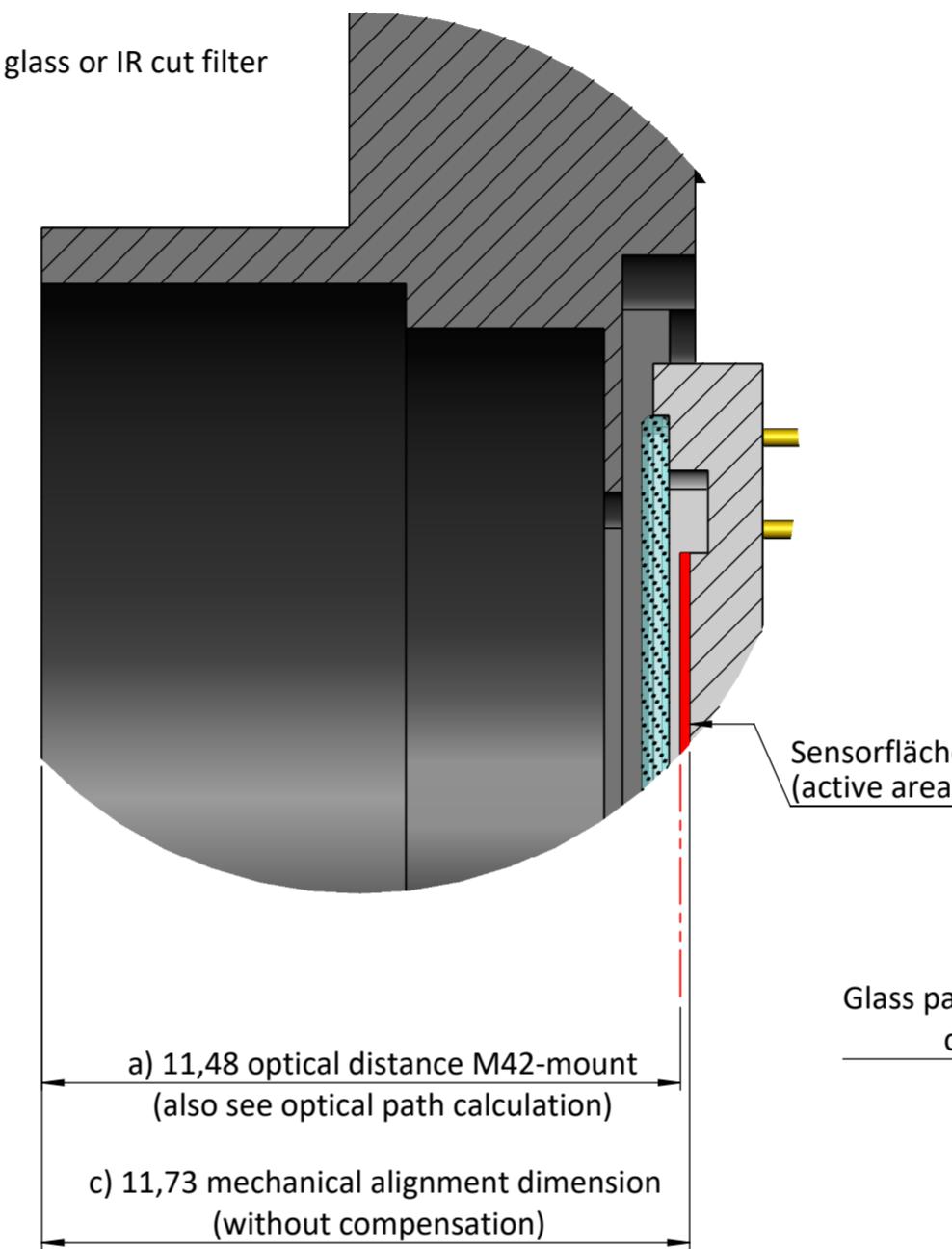
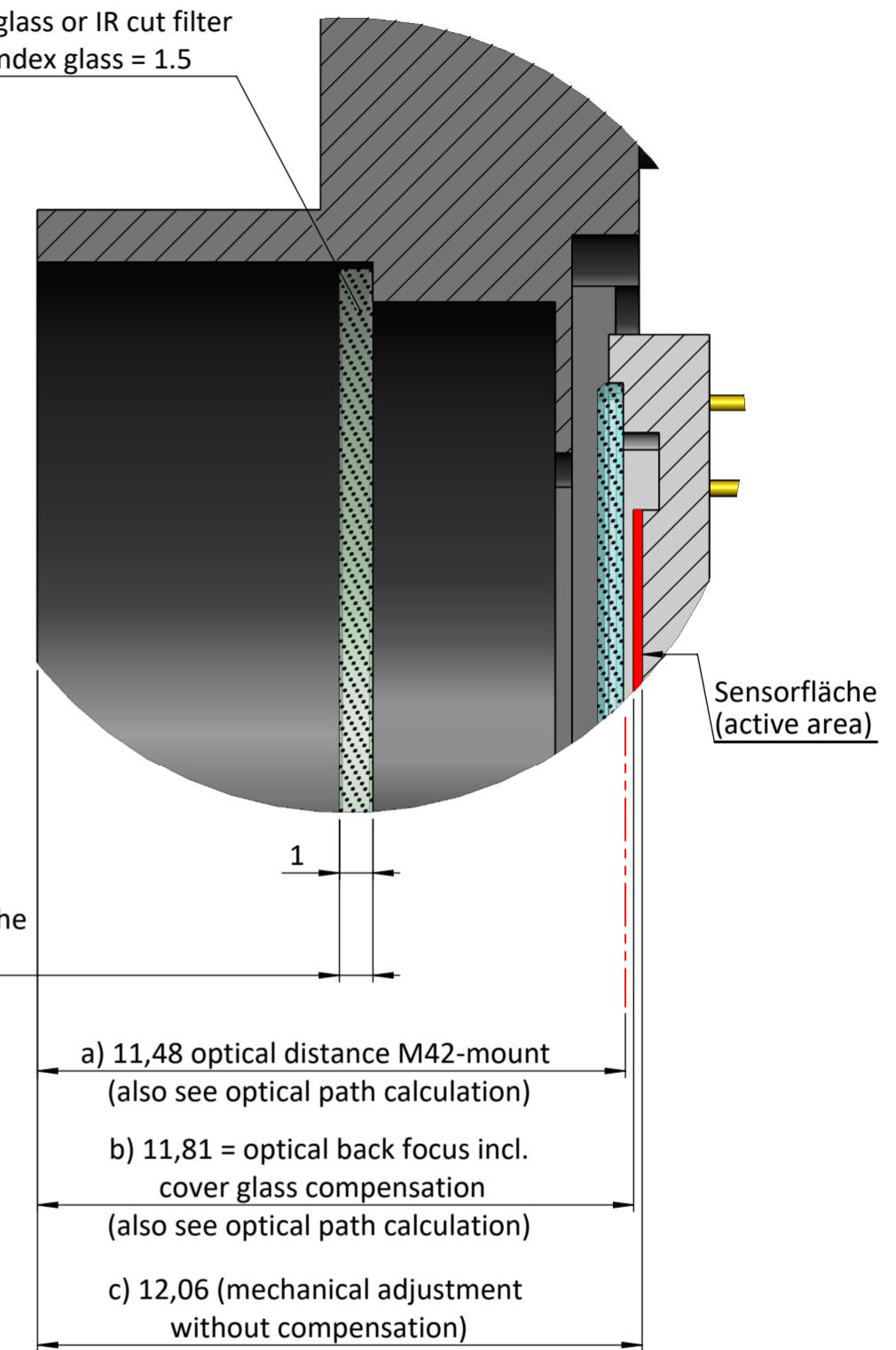
Example representation of a compensated sensor model:



Delta 1 (sensor glass) = glass thickness $(1 - 1/\text{refractive index glass})$
This delta must be added to the specified distance to A in the model

Example:
glass thickness 0,76 mm
refractive index 1,5
delta = 0,76 mm $(1 - 1/1,5) = 0,25 \text{ mm}$

without cover glass or IR cut filter

with cover glass or IR cut filter
Refractive index glass = 1.5**What has to be considered with regard to the glasses in the optical path (sensor glass / cover glass / filter glass) - compensation of the back focus?**

According to the formula of the optical path (also see sheet 2) the position of the sensor area has to be corrected as a function of the different glass thicknesses and also their refractive indexes as follows:

Path compensation = glass thickness x $(1 - 1/\text{refraction index})$

mechanical distance (example) = standard mount distance + delta 1 + delta 2
delta 1 = 0,76 $(1 - 1/1,5) = 0,25 \text{ mm}$ (sensor glass)
delta 2 = 1,0 $(1 - 1/1,5) = 0,33 \text{ mm}$ (cover / filter glass)
= (M42-Mount) $11,48 + 0,25 + 0,33 = 18,026 \text{ mm}$ (sensor area "active area")

This is taken into account with each of our cameras!

Example illustrations of a M42-mount with and without cover / filter glass:

 SVS-VISTEK <small>all dimensions in mm unless otherwise specified</small>	Scale: 5:1	Rev.: 1		
	Customer Interface Drawing			
Title: FAQ explanations glass path compensation for all SVS - cameras (example- M42 Mount)				
Material No.: A2				
Weight: Blatt/Sheet 1/1				

NOTE:

----- = only to represent the optical plane -
no reference to surfaces or edges