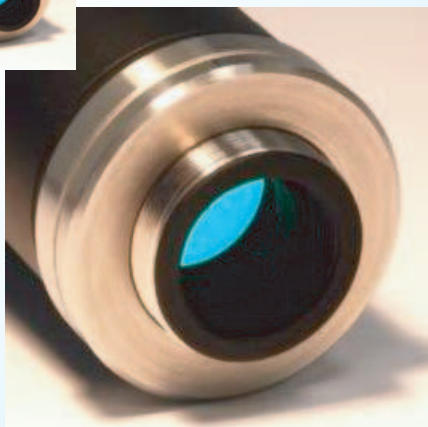




PLUG-IN FILTER HOLDER FOR BI-TELECENTRIC LENSES



Light filtering is a typical need in machine vision measurement applications.

For instance, you may need to remove possible interactions between your machine vision LED illuminator and other lighting sources usually present in any industrial environment.

Moreover, sun light is very frequently causing imaging system faults because of unsuspected reflections on the surface under measurement. In cases like this an IR filter is typically integrated in front of the objective.

In many other situations a monochromatic or pseudo-monochromatic illumination would be needed in order to enhance or reduce some object features.

The main issue in integrating filters with telecentric lenses is given by the size of the front optical elements which can often be very large. For this reason a filter in front of a telecentric lens would be very large and consequently very expensive.

To overcome size and cost issues, Opto Engineering offers a very simple and cost-effective solution.

A simple filter adapter can be easily placed inside the rear part of all of our C-mount telecentric lenses (with the exception of our TC 13 XX models which don't support this accessory).

The supported filter diameter is 17,50 mm and the maximum allowed filter thickness is 3 mm.



Inserting the filter in the rear side of the lens will change the path of the rays and will increase the back focal length of the lens.

In order to adjust the flange-to-detector distance and maintain the nominal working distance of the lens, spacers must be inserted between the C-mount flange and the threaded "compensation" flange present on each of our telecentric lenses; spacers are included in the product package.

The typical refraction index of filter substrates is in the range of 1.5 .. 1.53; under this condition spacers whose overall thickness is 1/3 of the filter thickness must be added.

Adjusting the flange distance will make the lens working properly and keep the optical distortion within the nominal value.

OPTO ENGINEERING S.R.L.

VIA CREMONA, 29/2
46100 MANTOVA - ITALY
TEL: +39 (0)376 263525
FAX: +39-(0)376 262432
WWW.OPTO-ENGINEERING.COM