

# IMPECTOR *fast 10*

Revolutionary Imaging Spectrograph for high speed applications; the ImSpector Fast10 is a high intensity imaging spectrograph which makes spectral imaging possible at hundreds and even up to 1500 images per second.

## Visible near infrared wave length range

| IMPECTOR                             |   | FAST 10 |
|--------------------------------------|---|---------|
| <b>Optical characteristics</b>       |   |         |
| Spectral range                       | 400 - 1000nm  |         |
| Spectral resolution *1               | 15nm (with 18µm slit)   |         |
| Image size                           | 0.78 (spectral) x 14.3 (spatial) mm                                     |         |
| Spatial resolution *1                | rms spot radius < 9µm   |         |
| Numerical aperture                   | F/3.2   |         |
| Slit width, default                  | 18µm  |         |
| Slit length                          | 14.3mm  |         |
| Optical input                        | Telecentric   |         |
| Efficiency                           | > 50%, independent of polarization                                      |         |
| <b>Aberrations</b>                   |   |         |
| Vignetting                           | ~0%   |         |
| Smile                                | < 4µm   |         |
| Keystone                             | < 4µm   |         |
| <b>Mechanical characteristics</b>    |   |         |
| Size, OEM                            | (W)55 x (H) x 60 x (L) 225mm  |         |
| Weight                               | 1530g   |         |
| Body, OEM                            | Anonized aluminium  |         |
| Lens and camera mount                | Standard C-mount adapter  |         |
| User adjustments                     | Image axis relative to detector rows, back focal length adjustable ±1mm |         |
| <b>Environmental characteristics</b> |   |         |
| Storage                              | -20 ... +80 °C  |         |
| Operating                            | +5 ... +40 °C, non-condensing   |         |

ImSpector Fast10 imaging spectrograph provides:

- high light throughput
- superior image quality
- good spectral resolution of 15 nm
- full VNIR spectrum of 400 – 1000 nm over a narrow dimension, allowing short read out times
- maximum light intensity on the camera pixels, allowing short integration times
- high speed acquisition in many low cost industrial CCD and CMOS cameras

ImSpector Fast10 brings spectral imaging to high speed industrial applications, like on line color sorting, and fruit and vegetable inspection. It also takes airborne hyperspectral imaging to new speed level.

ImSpector Fast10 can also be supplied with multichannel fiber optics.

\*1 System spectral and spatial resolutions also depend on the discrete imaging nature of detector and lens quality.



ImSpector Fast10, side view



ImSpector Fast10, front view



ImSpector Fast10 combined with fore lens and camera

### Options, fore optics

- Fore optics: OLE9, OLE17, OLE18.5, OLE23 and OLE140 for 2/3" or larger detector

More information about fore optics can be found from the Hyperspectral fore lenses -data sheet.

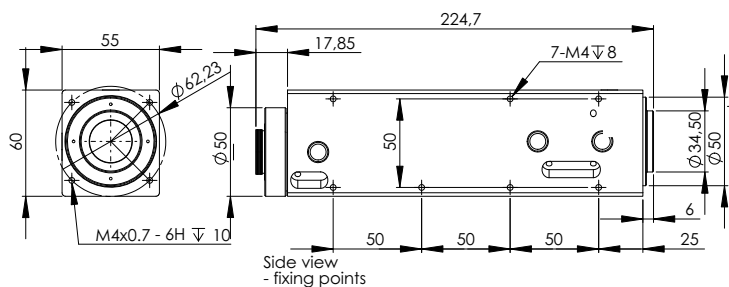
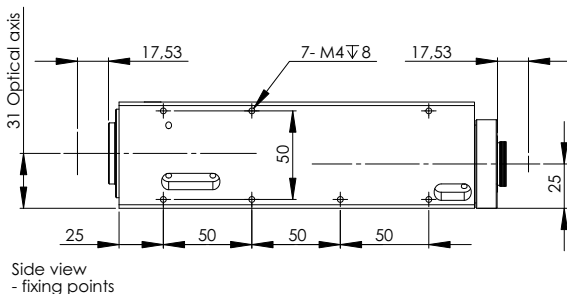
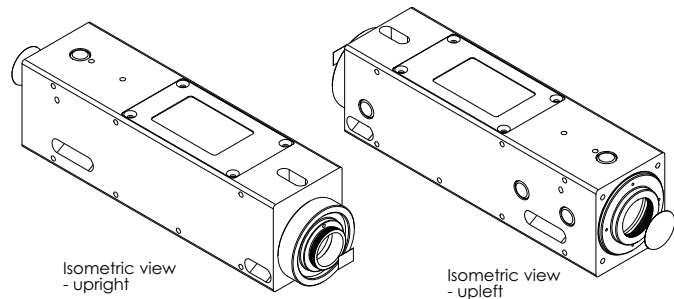
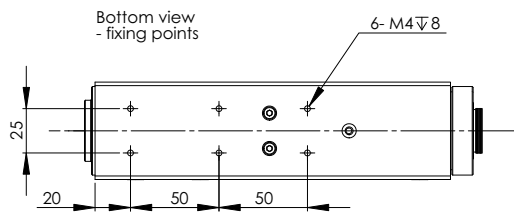
### Options, accessories

- Mechanical shutter
- Collection fiber optics
- Fiber optic diffuse irradiance sensor (FODIS) for light source monitoring

More information about fiber optics can be found from Multipoint spectrometers -data sheet.

### Applications

- Skin scanning
- Industrial inspection
- Color sorting and matching
- Fruit and vegetable inspection
- Printing, wood, automotive
- Architecture
- Display and light source testing



ImSpector Fast10 mechanical dimensions