

This C-Mount lens with 19.3 mm image circle and 400-1000 nm broadband AR coating is designed for 24.5 M / 2.74  $\mu\text{m}$  pixel Sony's 4th Gen Pregius S™ technology and similar sensors. The anti-shading design prevents shading caused by micro lenses and results in a very even light distribution. A robust metal housing ensures a stable image position even under harsh environmental conditions.

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## Key features

- 1.2" C-Mount compact lens
- For pixel size down to 2.4  $\mu\text{m}$
- Suitable for all Sony's Pregius™ generations
- For visible and near IR illumination

## Applications

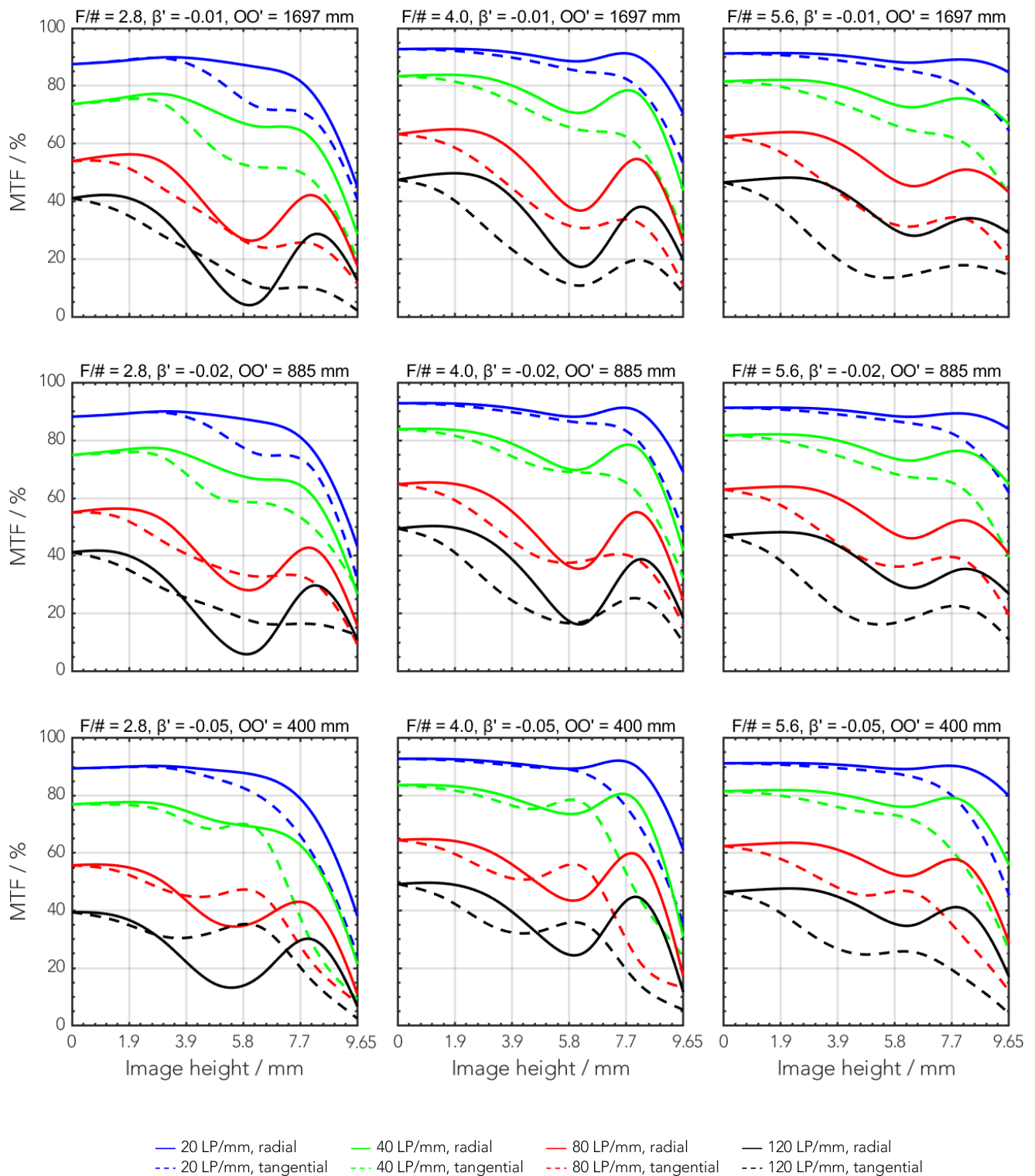
- Machine Vision
- AOI (Automated Optical Inspection)
- 3D and 2D measurement
- Robotic Vision

## Technical specifications

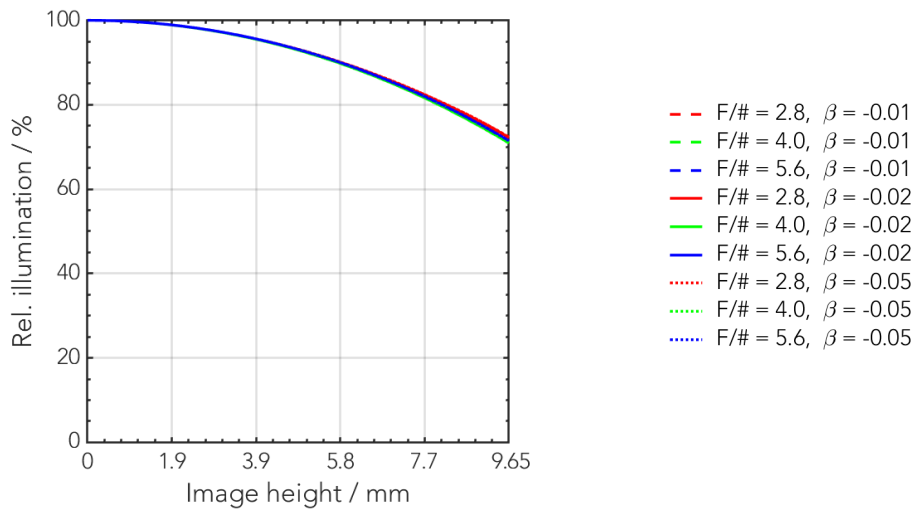
|  |  |
|--|--|
| Type [standard]                                    | C  |
| ID [standard]                                      | 1099214                                    |
| Interface  | C-Mount                                    |
| Focal length [mm]                                  | 16   |
| F/# range  | F/2.8 ... F/22                             |
| Numerical aperture [object   image]                | -   0.18                                   |
| Max. sensor size [mm]                              | 19.3                                       |
| Max. angle of view [°]                             | 63   |
| Rec. magnification range                           | -0.1 ... 0                                 |
| Rec. working distance range [mm]                   | 150 ... $\infty$                           |
| Min. working distance without extension tubes [mm] | 33   |
| Filter thread [mm]                                 | M37 x 0.75                                 |
| Storage temperature [°C]                           | -25 ... +70                                |
| Net. weight [g]                                    | 154  |
| Additional info                                    | Max. chief ray angle in image space = 8.6° |
| f'eff [mm]   | 16.50                                      |
| SF [mm]  | 7.63                                       |
| S'F' [mm]  | 16.93                                      |
| HH' [mm]   | 25.75                                      |
| $\beta'$ P   | 3.70                                       |
| SEP [mm]   | 12.07                                      |
| S'AP [mm]  | -44.41                                     |
| $\Sigma d$ [mm]                                    | 49.46                                      |

## MTF charts

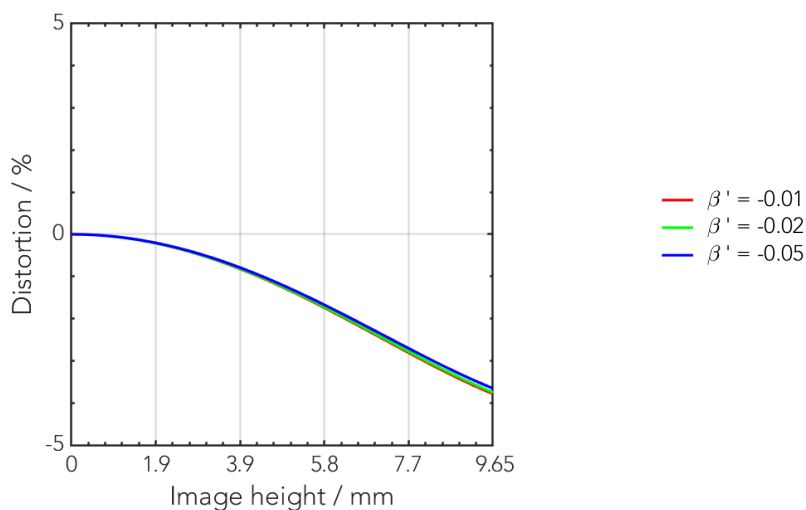
| Spectrum name    | VIS |     |     |     |     |     |
|------------------|-----|-----|-----|-----|-----|-----|
| Wavelengths [nm] | 425 | 475 | 525 | 575 | 625 | 675 |
| Rel. weights [%] | 8   | 16  | 23  | 22  | 19  | 13  |



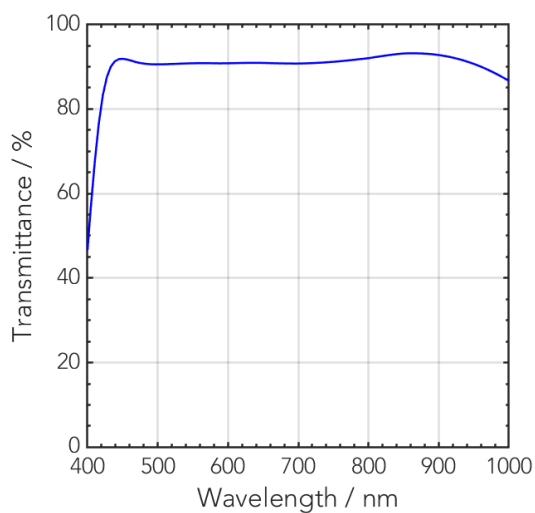
## Rel. illumination vs. image height



## Distortion vs. image height



## Transmittance vs. wavelength





| Accessories    | Mount             | Eff. length | ID      |
|----------------|-------------------|-------------|---------|
| Adapter        | CS-Mount          | 5 mm        | 25081   |
|                | C-Mount / M42 x 1 | 5.5 mm      | 1075817 |
| Extension tube | C-Mount / C-Mount | 5 mm        | 39316   |
|                | C-Mount / C-Mount | 8 mm        | 39315   |
|                | C-Mount / C-Mount | 10 mm       | 39312   |

| Annotation                   |   |
|------------------------------|---|
| Focal length                 | Nominal focal length  |
| F/# range                    | Image space F-number range for infinity focus position  |
| Numerical aperture           | Maximum real numerical aperture (depending on recommended magnification range either for infinity or respective fixed magnification)                              |
| Max. sensor size             | Image circle diameter   |
| Max. angle of view           | Angle of view associated with maximum sensor size (depending on recommended magnification range either for infinity or respective fixed magnification)            |
| Rec. magnification range     | Magnification range as recommended by Schneider-Kreuznach   |
| Rec. working distance range  | Working distance, i.e. distance between object and first mechanical element, associated with recommended magnification range                                      |
| Max. mechanical focus travel | Maximum possible movement of the lens from infinity position (depending on recommended magnification range either for infinity or respective fixed magnification) |
| Net weight                   | weight of unpacked lens without lens cap  |
| $f'_{\text{eff}}$            | Effective focal length  |
| SF                           | Distance between vertex of first lens surface and object space focal point  |
| S'F'                         | Distance between vertex of last lens surface and image space focal point (back focal distance at infinity)  |
| HH'                          | Distance between principal planes   |
| $\beta'P$                    | Pupil magnification (= exit pupil diameter / entrance pupil diameter)   |
| SEP                          | Distance between vertex of first lens surface and entrance pupil  |
| S'AP                         | Distance between vertex of last lens surface and exit pupil   |
| $\Sigma d$                   | Distance between vertices of first and last lens surface  |
| s'A                          | Flange focal distance (in air) for infinite object distance (depending on recommended magnification range either for infinity or respective fixed magnification)  |
| $\beta'$                     | Magnification (= image size / object size), negative value because image is inverted  |
| OO'                          | Distance between object and image   |

Unless otherwise stated all dimensions in this data sheet are in mm.

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