# JADE 2.8/12 C

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 µm 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.

Pregius and Pregius S are trademarks of Sony Corporation

## Key features

- 1.2" C-Mount compact lens
- For pixel size down to 2.4 µm
- 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] | 1099612 |
| Interface | C-Mount |
| Focal length [mm] | 12 |
| F/# range | F/2.8 ... F/22 |
| Numerical aperture [object \| image] | - \| 0.18 |
| Max. sensor size [mm] | 19.3 |
| Max. angle of view [°] | 77 |
| Rec. magnification range | -0.05 ... -0.01 |
| Rec. working distance range [mm] | 230 ... 1230 |
| Min. working distance without extension tubes [mm] | 6 |
| Filter thread [mm] | M62 x 0.75 (with additional filter holder) |
| Storage temperature [°C] | -25 … +70 |
| Net. weight [standard] [g] | 167 |
| Additional info | Max. chief ray angle in image space = 7.1° |
| f'eff [mm] | 12.48 |
| SF [mm] | 16.55 |
| S'F' [mm] | 14.90 |
| HH' [mm] | 27.47 |
| ß'P | 3.40 |
| SEP [mm] | 20.22 |
| S'AP [mm] | -27.46 |
| Σd [mm] | 54.07 |

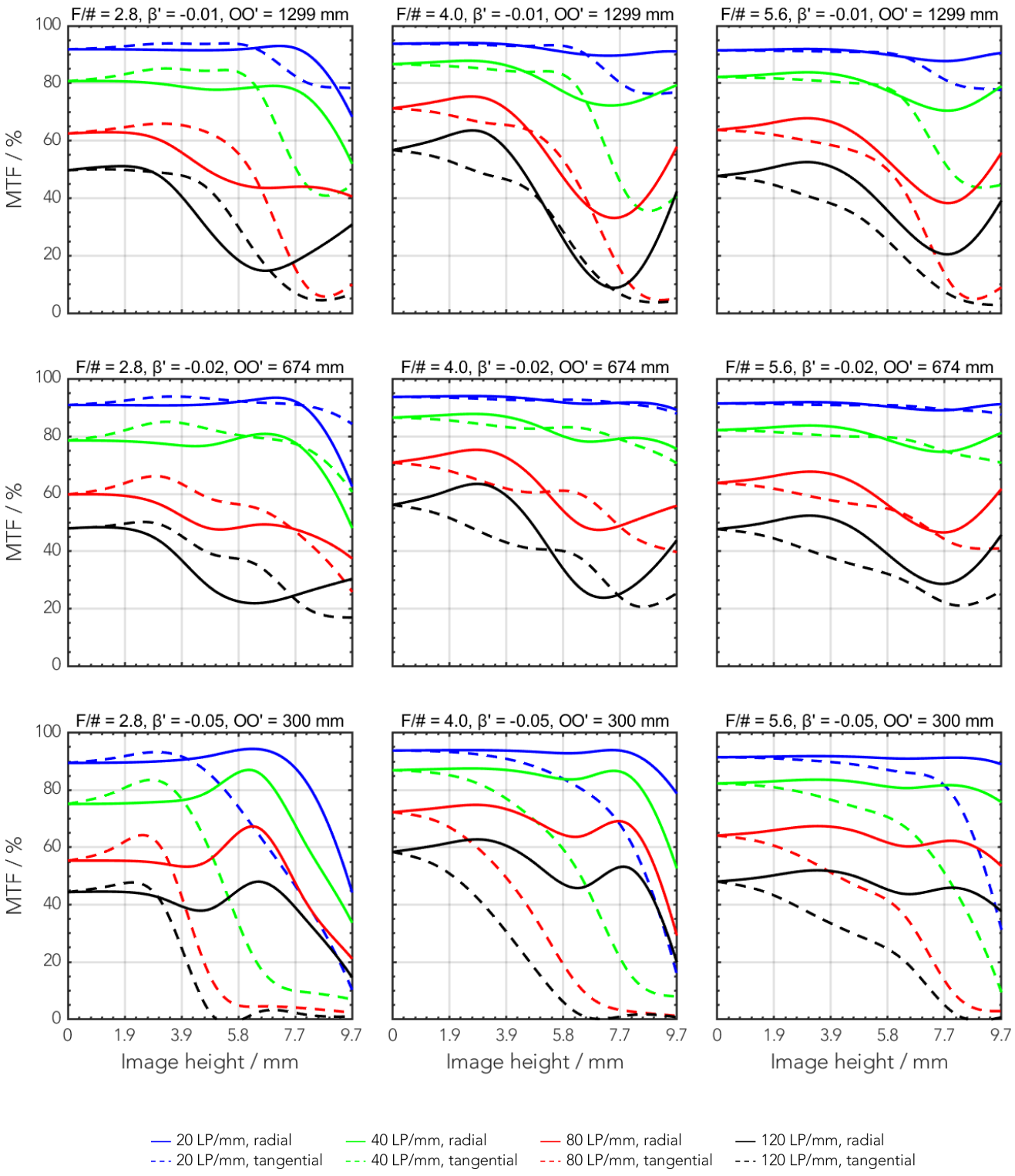
© Jos. Schneider Optische Werke
We accept no responsibility for an

ADEPT TURNKEY
SMARTER IMAGING FOR BETTER LIVES
Perth: (08) 9242 5411 Melbourne: (03) 9384 1775 Sydney: (02) 9905 1551
Email: sales@adeptturnkey.com.au
Web site: www.adept.net.au

# JADE 2.8/12 C

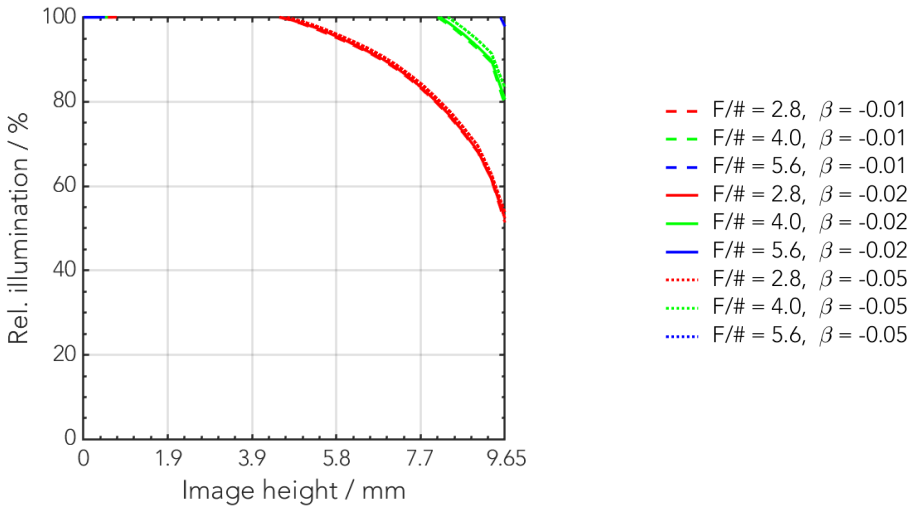
## MTF charts

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

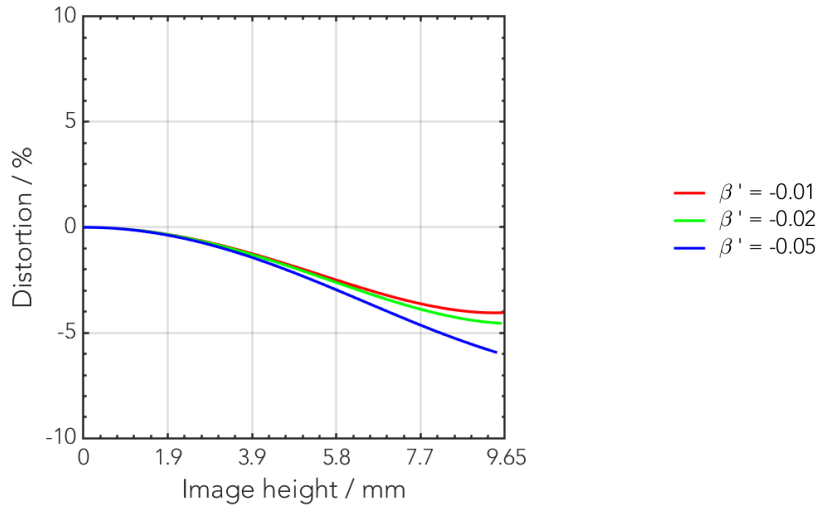



© Jos. Schneider Optische Werke GmbH | 12/2021 | Jos. Schneider Optische Werke GmbH is certified ISO 9001.
We accept no responsibility for any errors and reserve the right of modification without further notice.

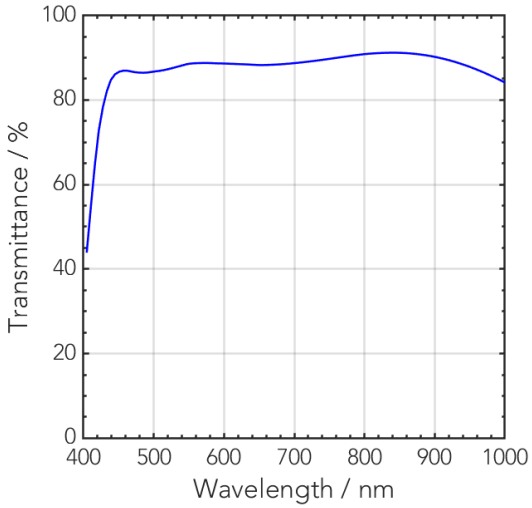
## Rel. illumination vs. image height




## Distortion vs. image height

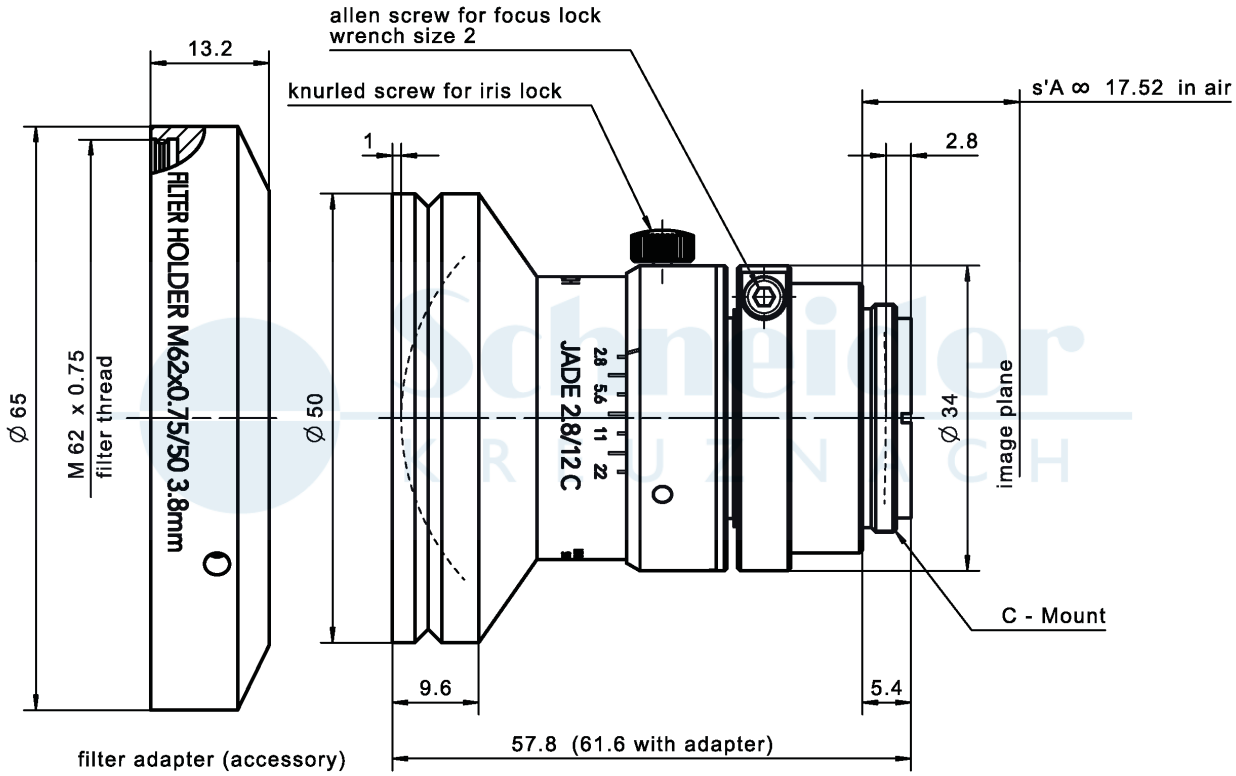



## Transmittance vs. wavelength




© Jos. Schneider Optische Werke GmbH | 12/2021 | Jos. Schneider Optische Werke GmbH is certified ISO 9001.
We accept no responsibility for any errors and reserve the right of modification without further notice.

## Technical drawings




© Jos. Schneider Optische Werke GmbH | 12/2021 | Jos. Schneider Optische Werke GmbH is certified ISO 9001.
We accept no responsibility for any errors and reserve the right of modification without further notice.

| Accessories | Mount | Eff. length | ID |
|---|---|---|---|
| Adapter | CS-Mount | 5 mm | 25081 |
| | C-Mount / M42x1 | 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 |
| Filter holder | M62x0.75 | | 1099613 |

© Jos. Schneider Optische Werke GmbH | 12/2021 | Jos. Schneider Optische Werke GmbH is certified ISO 9001.
We accept no responsibility for any errors and reserve the right of modification without further notice.

| 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'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 |
| ß'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 |
| Σ 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) |
| ß' | 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.

© Jos. Schneider Optische Werke GmbH | 12/2021 | Jos. Schneider Optische Werke GmbH is certified ISO 9001.
We accept no responsibility for any errors and reserve the right of modification without further notice.

## Headquarters Europe

**Jos. Schneider Optische Werke GmbH**

Ringstraße 132

55543 Bad Kreuznach

✆ +49 671 601 205

✉ cs@schneiderkreuznach.com

www.schneiderkreuznach.com

## Offices Worldwide

**America**

✆ +1 800 645 7239 (East Coast)

✆ +1 800 228 1254 (West Coast)

✉ info@schneideroptics.com

**Asia**

✆ +86 755 8832 1170

✉ info@schneider-asiapacific.com

ADEPT TURNKEY

SMARTER IMAGING FOR BETTER LIVES

**Perth:** (08) 9242 5411 **Melbourne:** (03) 9384 1775 **Sydney: (02)** 9905 1551

**Email**: sales@adeptturnkey.com.au
**Web site**: www.adept.net.au

© Jos. Schneider Optische Werke GmbH | 12/2021 | Jos. Schneider Optische Werke GmbH is certified ISO 9001.
We accept no responsibility for any errors and reserve the right of modification without further notice.