

This V48-Mount lens is designed for large sensors up to 43.2 mm diagonal/length. It is optimized for a working distance range from 0.6 m to 5.0 m. With optional V48 extension tubes and adapters it can be mounted to all common camera mounts. The robust mechanics and a special focus setting and locking mechanism ensures highest mechanical stability even in harsh environment.

Key features

- V48-Mount
- 43.2 mm image circle
- Optimized for short working distances
- 400-1000 nm broadband AR-coating

Applications

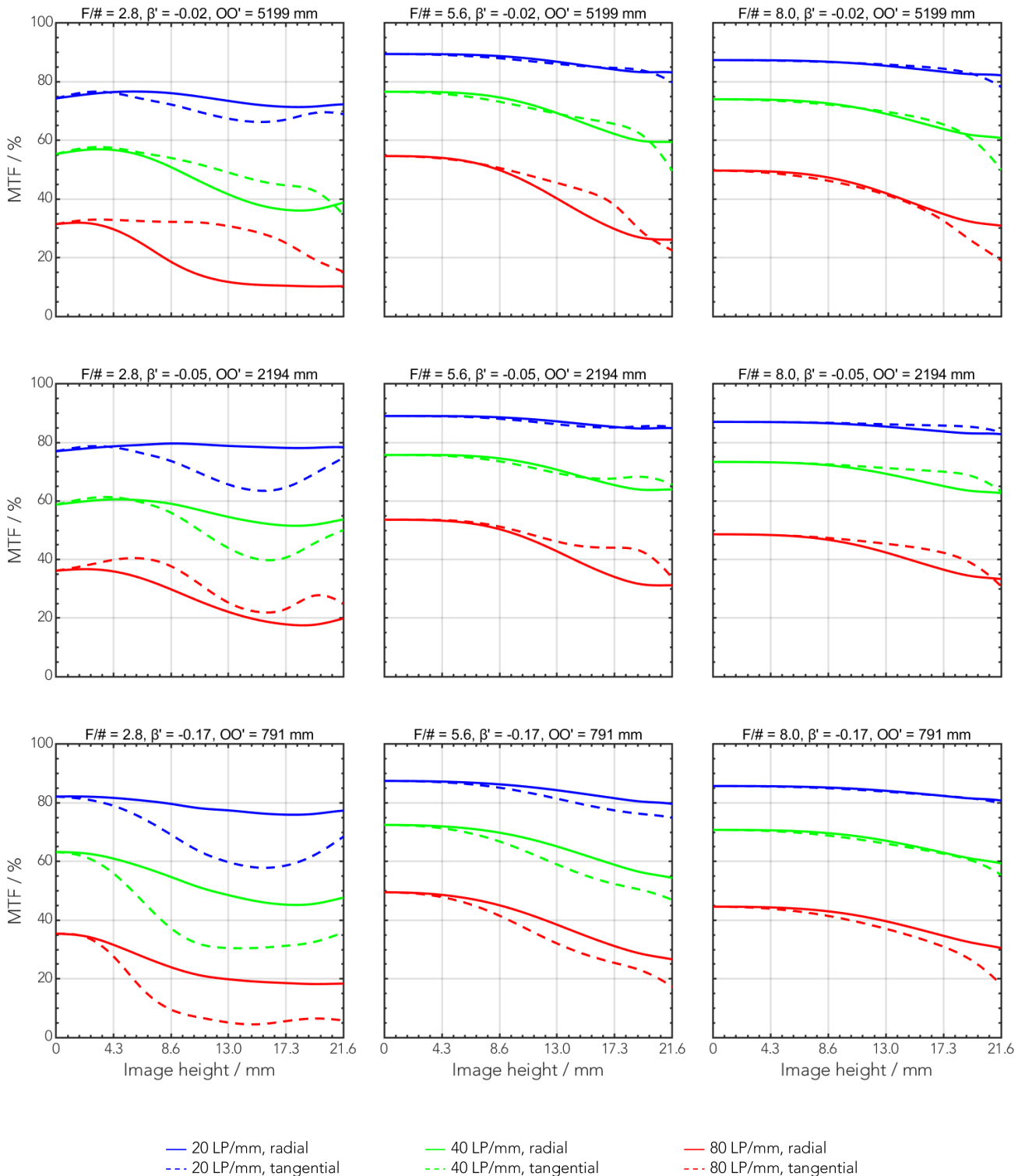
- Machine Vision
- AOI (Automated Optical Inspection)
- Web inspection
- Factory automation

Technical specifications

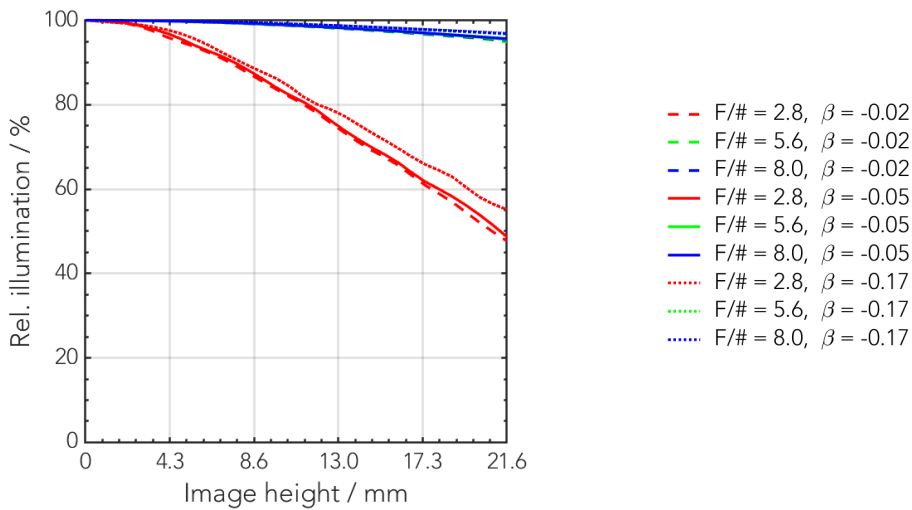
| | |
|-------------------------------------|-----------------|
| Type [short distance] | V48-SD |
| ID [short distance] | 1070119 |
| Interface | V48-Mount |
| Focal length [mm] | 100 |
| F/# range | F/2.8 ... F/22 |
| Numerical aperture [object image] | - 0.17 |
| Max. sensor size [mm] | 43.2 |
| Max. angle of view [°] | 24 |
| Rec. magnification range | -0.17 ... -0.02 |
| Rec. working distance range [mm] | 633 ... 5059 |
| Max. mechanical focus travel [mm] | 21.8 |
| Filter thread [mm] | M43 x 0.75 |
| Storage temperature [°C] | -25 ... +70 |
| Net. weight [standard] [g] | 317 |
| Additional info | - |
| f'eff [mm] | 100.07 |
| SF [mm] | -48.60 |
| S'F' [mm] | 76.90 |
| HH' [mm] | -16.26 |
| β'P | 1.27 |
| SEP [mm] | 30.12 |
| S'AP [mm] | -50.31 |
| Σd [mm] | 58.50 |

MTF charts

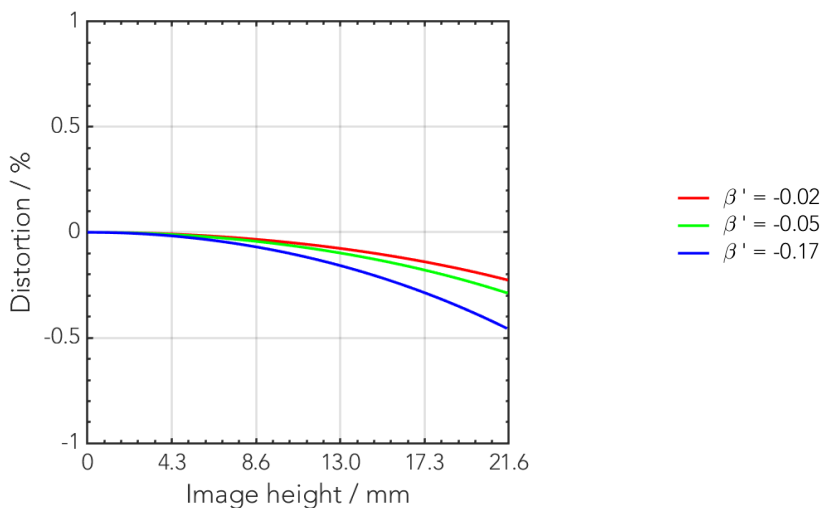
| Spectrum name | VIS | | | | | |
|------------------|-----|-----|-----|-----|-----|-----|
| Wavelengths [nm] | 425 | 475 | 525 | 575 | 625 | 675 |
| Rel. weights [%] | 8 | 16 | 23 | 22 | 19 | 13 |



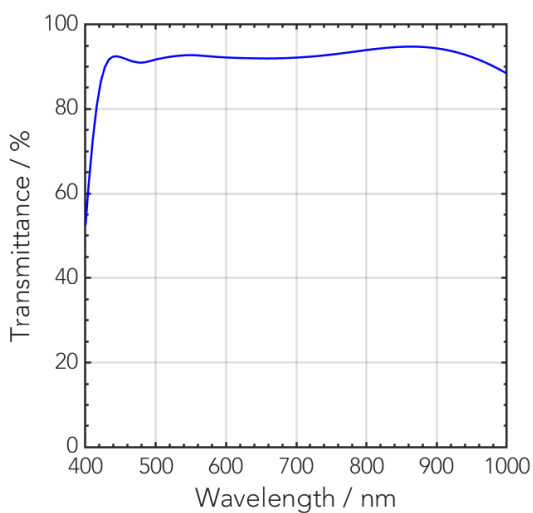
Rel. illumination vs. image height



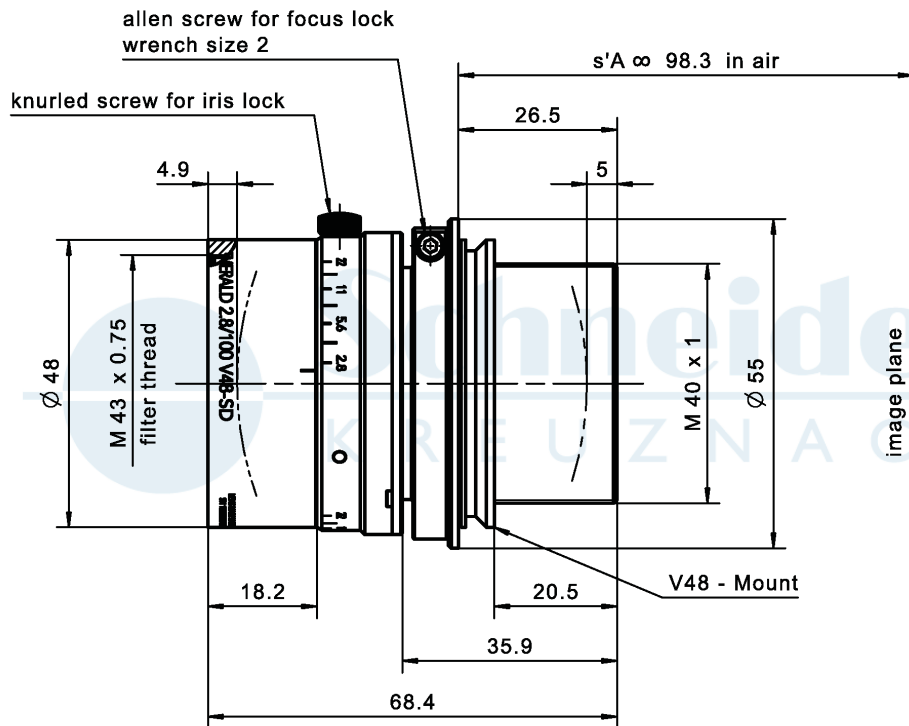
Distortion vs. image height



Transmittance vs. wavelength



Technical drawings



| Accessories | Mount | Eff. length | ID |
|----------------|------------------|-------------|---------|
| Adapter | V48 / C-Mount | 8.5 mm | 1072650 |
| | V48 / TFL-Mount | 8.5 mm | 1098492 |
| | V48 / M42 x 0.75 | 8.5 mm | 1072652 |
| | V48 / M42 x 1 | 8.5 mm | 1072660 |
| | V48 / M58 x 0.75 | 10 mm | 1072659 |
| Extension tube | V48 / V48 | 10 mm | 1072661 |
| | V48 / V48 | 25 mm | 1072651 |
| | V48 / V48 | 50 mm | 1072662 |

| 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 |
| $\beta'P$ | 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 |
| Σd | 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) |
| β' | 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.