

This large format lens comes with a V48-Mount for more flexibility. Optimized for longer distances up to infinity. The low field of curvature makes the lens the ideal choice where a compact lens inquires large field of view. These robust lenses are ideal for factory automation as well as for scanning applications. We also offer a version optimized for close-up applications.

## Key features

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

## Applications

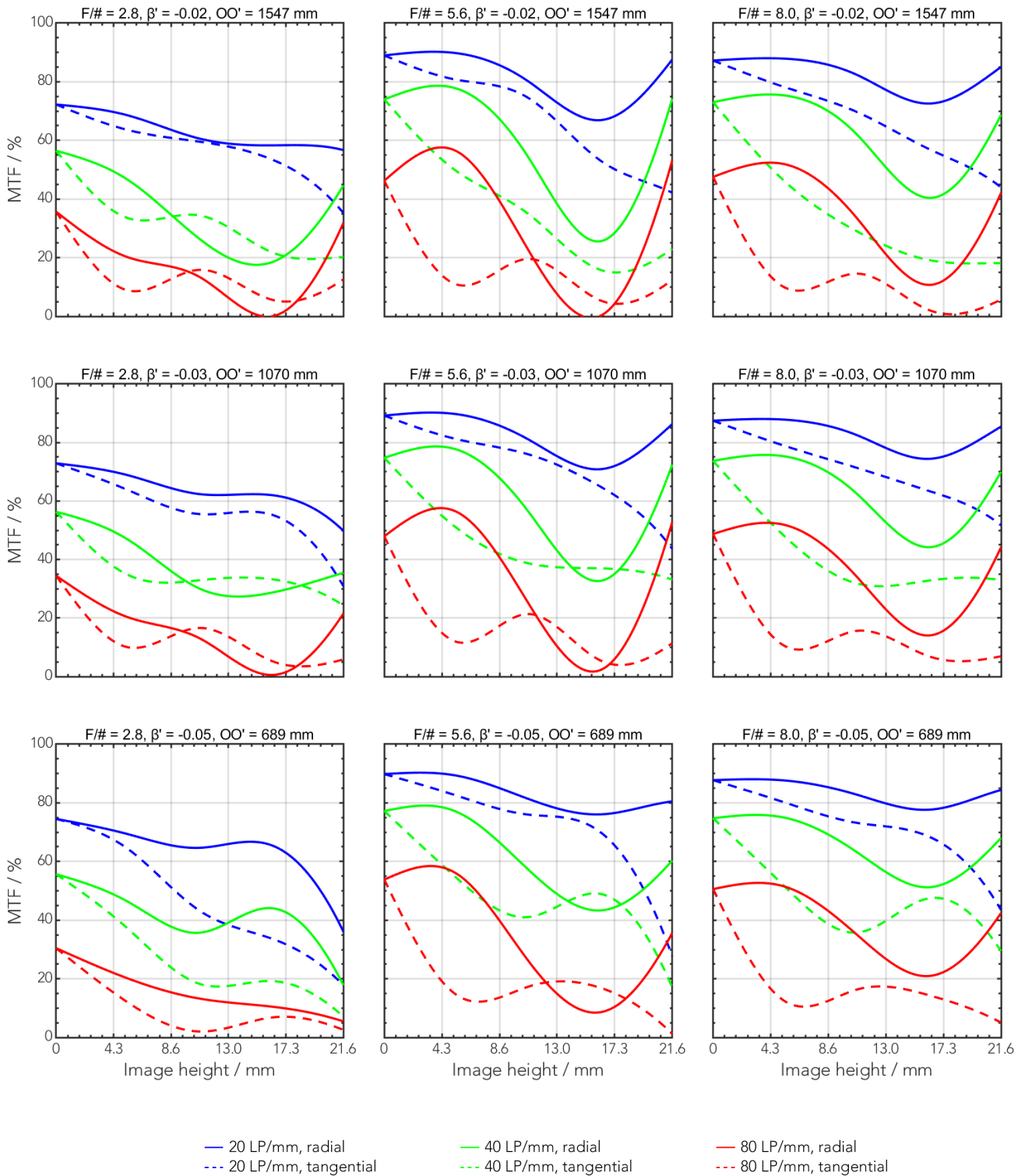
- Quality control
- Code reader
- Web inspection
- Factory automation

## Technical specifications

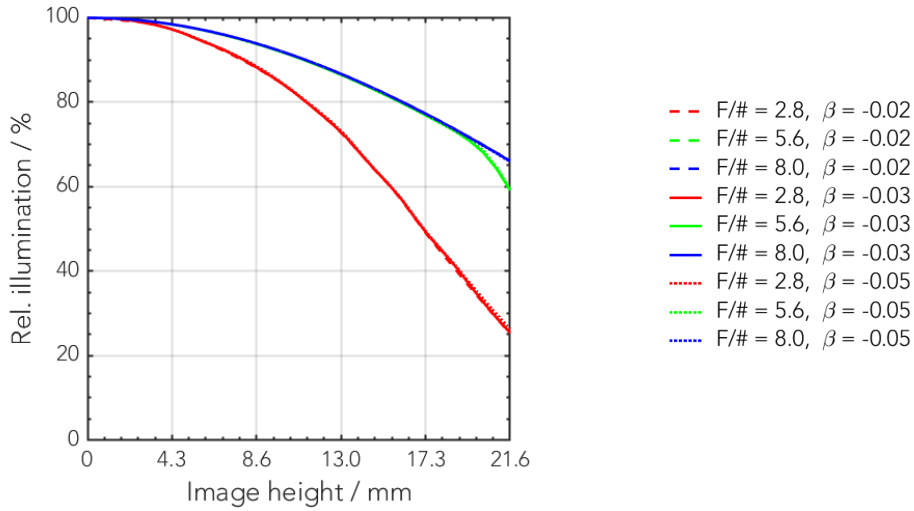
|                                   |                |
|-----------------------------------|----------------|
| Type                              | -0007          |
| ID                                | 1071610        |
| Interface                         | V48-Mount      |
| Focal length [mm]                 | 28             |
| F/# range                         | F/2.8 ... F/22 |
| Numerical aperture                | 0.18           |
| Max. sensor size [mm]             | 43.2           |
| Max. angle of view [°]            | 77             |
| Rec. magnification range          | -0.1 ... 0     |
| Rec. working distance range [mm]  | 264 ... ∞      |
| Max. mechanical focus travel [mm] | -              |
| Filter thread [mm]                | M62 x 0.75     |
| Storage temperature [°C]          | -25 ... +70    |
| Net. weight [g]                   | 515            |
| Additional info                   | -              |
| f'eff [mm]                        | 28.65          |
| SF [mm]                           | 19.91          |
| S'F' [mm]                         | 38.29          |
| HH' [mm]                          | 56.82          |
| β'P                               | 3.67           |
| SEP [mm]                          | 27.72          |
| S'AP [mm]                         | -66.86         |
| Σd [mm]                           | 95.74          |

## MTF charts

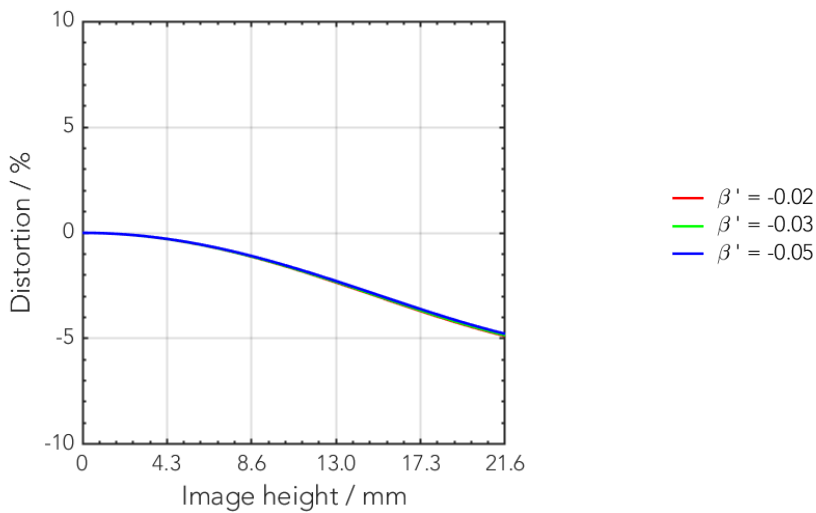
| Spectrum name    | VIS |     |     |     |     |     |
|------------------|-----|-----|-----|-----|-----|-----|
| Wavelengths [nm] | 425 | 475 | 525 | 575 | 625 | 675 |
| Rel. weights [%] | 8   | 16  | 23  | 22  | 19  | 13  |



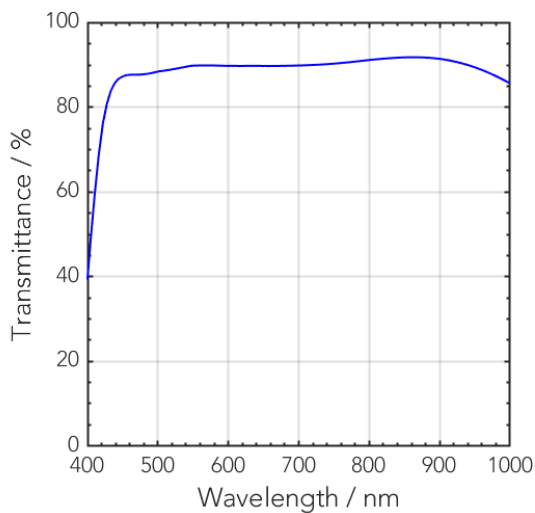
## Rel. illumination vs. image height



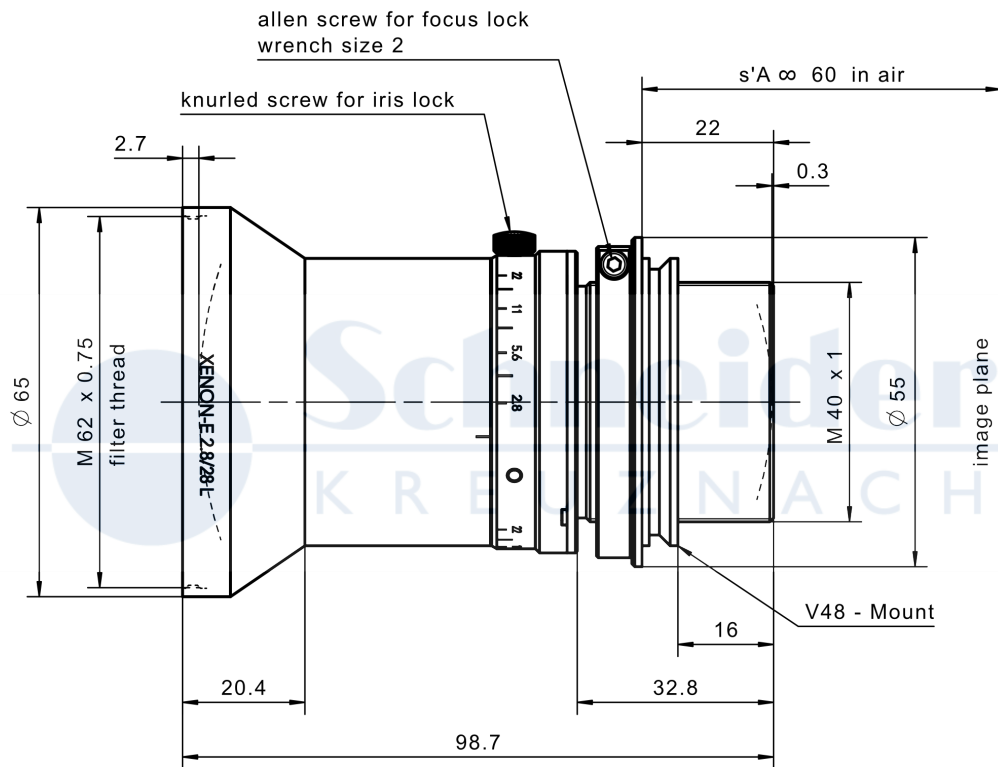
## Distortion vs. image height



## Transmittance vs. wavelength



## Technical drawings



standard

| Accessories    | Mount            | Eff. length | ID      |
|----------------|------------------|-------------|---------|
| Adapter        | V48 / C-Mount    | 8.5 mm      | 1072650 |
|                | V48 / TFL-Mount  | 8.5 mm      | 1098493 |
|                | 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  |
| $f'_{\text{eff}}$            | 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.