3 Mega-Pixel Lens

Xenoplan 1.4/23-0902

In accordance with the sensitivity of modern 2 / 3" CCD and CMOS sensors, the 3 megapixel lenses are corrected and broadband-coated for the spectral range of 400 – 1000 nm (VIS + NIR). Even under production and / or extreme conditions, the robust mechanical design with lockable focus and iris setting mechanism guarantees reliable continuous use in which the set optical parameters remain in place.

Key Features

- High-resolution optics
- Highest optical imaging performance even with smallest pixel sizes
- Broadband coating (400 - 1000 nm)
- Compact and low weight
- Vibration insensitivity for stable imaging performance
- Focus and iris setting lockable

Applications

- Machine Vision and other imaging applications
- 3D measurement
- Traffic
- Medical
- Robot vision
- Food processing

Technical Specifications

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>F-number</td>
<td>1.4</td>
</tr>
<tr>
<td>Focal length</td>
<td>22.5 mm</td>
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<tr>
<td>Image circle</td>
<td>11 mm</td>
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<tr>
<td>Transmission</td>
<td>400 - 1000 nm</td>
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<tr>
<td>Interface</td>
<td>C-Mount</td>
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<tr>
<td>Weight</td>
<td>94 gr.</td>
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<td>Filter thread</td>
<td>M30.5 x 0.5</td>
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<td>Code no.</td>
<td>1001917</td>
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</tbody>
</table>

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**Xenoplan 1.4/23**

**Xenoplan 1.4/23mm**

- \( f' = 22.5 \text{ mm} \)
- \( \theta F = 2.271 \)
- \( w_F = 10.2 \text{ mm} \)
- \( w_{EB} = 20.1 \text{ mm} \)
- \( w_{AP} = 15.0 \text{ mm} \)
- \( w_{AP} = -36.1 \text{ mm} \)
- \( HH' = -9.3 \text{ mm} \)
- \( \Sigma d = 30.9 \text{ mm} \)

**Modulation with reference to the relative image height**

- Wavelength: \( \lambda \) [\( \mu \text{m} \): 555, 605, 655, 505, 455, 405]
- Spectral weighting: [\%: 19.6, 25.7, 22.2, 15.7, 12.1, 6.7]
- Spatial frequency: \( R [1/\text{mm}]: 10 \), 20, 50
- Format: \( F [\text{mm}]: 0.5 \times 0.8 \)

**Graphs**

- Modulation vs. \( \omega \) [\%] for various \( f' \) and \( \theta \), showing the modulation transfer function (MTF) for different conditions.

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Xenoplan 1.4/23

Relative Illumination

The relative illumination is shown for the given focal distances or magnifications.

\[ \frac{f}{1.5} \quad f/4.0 \quad f/8.0 \]

\[ \delta' = -0.0200 \quad \omega_{000} = 5.5 \quad \Omega' = 1162. \]

\[ \delta' = -0.0500 \quad \omega_{000} = 5.5 \quad \Omega' = 487. \]

\[ \delta' = -0.1000 \quad \omega_{000} = 5.5 \quad \Omega' = 295. \]

Distortion

Distortion is shown for the given focal distances or magnifications. Positive values indicate pincushion distortion and negative values barrel distortion.

\[ \delta' = -0.0200 \quad \omega_{000} = 5.5 \quad \Omega' = 1162. \]

\[ \delta' = -0.0500 \quad \omega_{000} = 5.5 \quad \Omega' = 487. \]

\[ \delta' = -0.1000 \quad \omega_{000} = 5.5 \quad \Omega' = 295. \]

Transmittance

Relative spectral transmittance is shown with reference to wavelength.