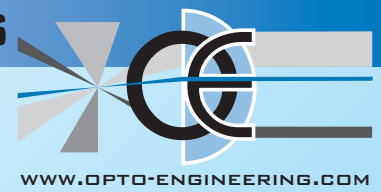


ZERO DISTORTION MACRO LENSES

MC SERIES:

ZERO DISTORTION MACRO LENSES



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MC SERIES are a family of macro lenses designed to capture images of small objects when very good resolution and nearly zero distortion are needed.

Typically small object fields are observed by means of long focal length lenses equipped with an additional spacer, used to correct the working distance.

Unfortunately this approach leads to several problems like:

- high image distortion
- image resolution loss (the focus at the corners is very poor)
- poor depth of field
- too large lens diameter (no room for illuminating devices)

All these problems can be overcome by using MC series, specifically designed for MACRO applications. In addition, MC SERIES lenses are perfectly suitable for dimensional measurement applications, because of their very low distortion and high resolution at any magnification within the product range.



Number of spacers	Magnification Range X	W. D. (mm)	F-number	Field Depth (mm)	Distortion	DETECTOR/OBJECT FIELD SIZE														
						1/4"			1/3"			1/2"			1/1.8"			2/3"		
						w	X	h	w	X	h	w	X	h	w	X	h	w	X	h
MC3.00X	3	29	20	0,2	<0,01%	1,2	x	0,9	1,6	x	1,2	2,13	x	1,6	2,38	x	1,79	2,93	x	2,2
MC2.00X	2	33	16	0,4	<0,01%	1,8	x	1,35	2,4	x	1,8	3,2	x	2,4	3,56	x	2,68	4,4	x	3,3
MC1.50X	1,5	38	13	0,5	<0,01%	2,4	x	1,8	3,2	x	2,4	4,27	x	3,2	4,75	x	3,58	5,87	x	4,4
MC1.00X	1	47	10	0,7	<0,01%	3,6	x	2,7	4,8	x	3,6	6,4	x	4,8	7,13	x	5,37	8,8	x	6,6
MC0.75X	0,75	58	9	1,4	<0,02%	4,8	x	3,6	6,4	x	4,8	8,53	x	6,4	9,5	x	7,16	11,7	x	8,8
MC0.50X	0,5	75	8	2,1	<0,02%	7,2	x	5,4	9,6	x	7,2	12,8	x	9,6	14,3	x	10,7	17,6	x	13,2
MC0.33X	0,333	102	7	3,5	<0,05%	10,8	x	8,11	14,4	x	10,8	19,2	x	14,4	21,4	x	16,1	26,4	x	19,8



MOST POPULAR APPLICATIONS:

- Dimensional Measurement of precision mechanical parts
- Electronic component and board inspection
- Web and tissue inspection
- Printing industry
- Microbiology
- Forensic Sciences
- Videomicroscopy



OPTO ENGINEERING S.R.L.

VIA CREMONA, 29/2

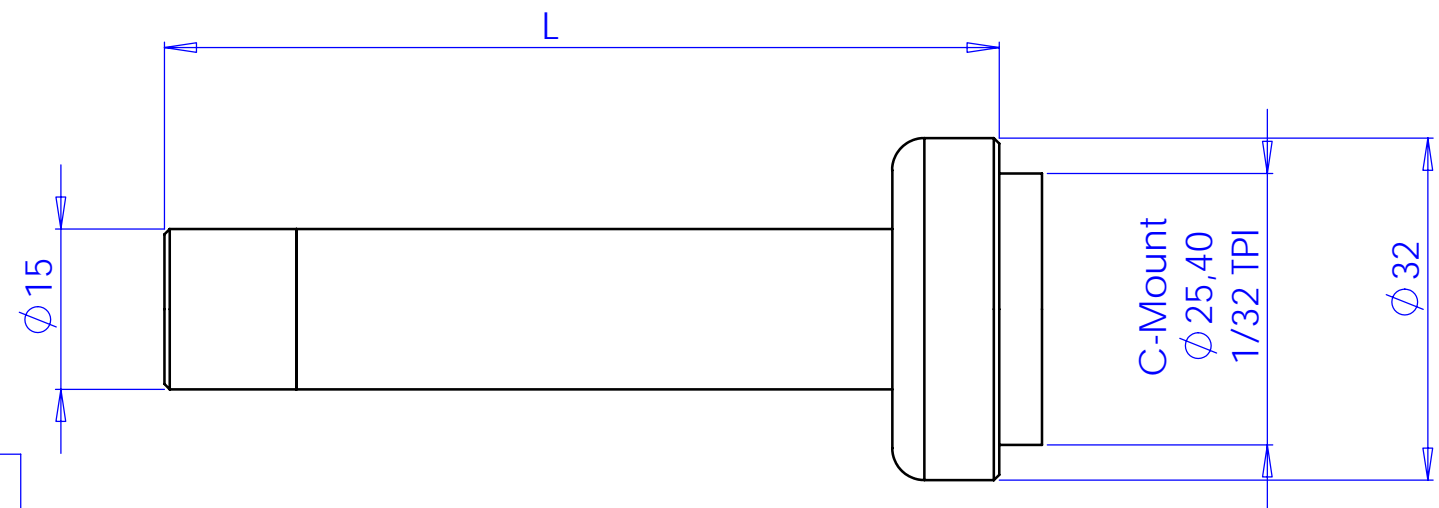
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Rev No.	Description	Date	Name



CONF.	L (mm)
MC 033 X	31.04
MC 050 X	35.72
MC 075 X	42.83
MC 100 X	49.86
MC 150 X	63.95
MC 200 X	78.10
MC 300 X	106.47

Material			Mass	Scale 2:1																															
Surface treatment			Project-Prod.Item/Instrument																																
Geometrical tolerance (ISO 2768-2)		<table border="1"> <tr> <th>Class</th> <th>K</th> <th>Undimensioned bevels</th> <th>1x45°</th> </tr> <tr> <td>0.5</td> <td>>30+</td> <td>>6+</td> <td>>30+</td> </tr> <tr> <td>+3</td> <td>>6</td> <td>30</td> <td>120</td> </tr> <tr> <td>±0.1</td> <td>±0.1</td> <td>±0.2</td> <td>±0.3</td> </tr> <tr> <td></td> <td></td> <td></td> <td>±0.5</td> </tr> <tr> <td></td> <td></td> <td></td> <td>±0.8</td> </tr> <tr> <td></td> <td></td> <td></td> <td>±1.2</td> </tr> <tr> <td></td> <td></td> <td></td> <td>±2</td> </tr> </table>	Class	K	Undimensioned bevels	1x45°	0.5	>30+	>6+	>30+	+3	>6	30	120	±0.1	±0.1	±0.2	±0.3				±0.5				±0.8				±1.2				±2	Description
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Linear tolerance (ISO 2768-2)		Undimensioned radii	R 0.5	MC 0.33X - 3X																															
		Date	Name	Drawing No.																															
Designed				Sheet																															
Draw				1/1																															
Checked																																			
<i>Reproduction forbidden without specific authorization</i>																																			